

Office of the State Auditor
Performance Audit Division



State of Mississippi

From the Office of State Auditor
Phil Bryant

**A Limited Review of Mississippi Technology Alliance
Division of Mississippi Alternative Energy Enterprise
for the Mississippi Land, Water and Timber Resources Board**

Final Report # 92
March 18, 2005
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March 18, 2005
Commissioner Lester Spell
Mississippi Land, Water & Timber Resources
121 North Jefferson Street
Jackson, MS 39201

Dear Commissioner Spell:

At your request, the Performance Audit Division of the Office of the State Auditor (OSA) conducted a limited review of the Mississippi Technology Alliance's division of the Mississippi Alternative Energy Enterprise (MAEE). Specifically, Performance Audit was asked to review MAEE's management and oversight of two Device Development projects funded through grants from the Mississippi Land, Water and Timber Resources Board (LWT).

However, after the initial draft was presented, MTA revealed that, although they undertook some management and oversight related activities, they believed they had no such responsibility for these two projects and therefore should not be criticized for problems outside their control. The Land, Water and Timber Board disagrees with MTA's understanding. OSA concurs with the Land, Water and Timber Board belief that their contracts with MTA indicate that responsibility.

It is possible that OSA's initial finding—that MTA's management and oversight activities were lacking—was due to MTA not handling these projects and the subcontracts as they would have if they believed themselves responsible for such management and oversight.

This version of the report includes additional information. The new and additional supporting information shows that MTA/MAEE did attempt to assist in the completion of the projects, even while they did not believe they had management and oversight responsibility.

Our review procedures included an analysis of current MTA/MAEE contracts, policies and internal controls; interviews with appropriate personnel and project principals; review and analysis of financial and other documentation/information; site visits; as well as other procedures considered necessary to complete this review.

The report includes findings and recommendations based on results of the limited review. We offer you, or anyone you deem appropriate, the opportunity to respond in writing to any findings and recommendations included in this report. If you have any questions, please feel free to contact the Performance Audit Division at (601) 576-2800.

It is our hope the information in this report will be beneficial to you and other parties interested in the program and that our recommendations may help strengthen future projects with both organizations.

Sincerely,

A handwritten signature in black ink, which appears to read "Phil Bryant", is written over a horizontal line.

Phil Bryant
State Auditor

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**Office of the State Auditor of Mississippi
Phil Bryant**

**A Limited Review of Mississippi Technology Alliance
Division of Mississippi Alternative Energy Enterprise
for the Mississippi Land, Water and Timber Resources Board**

Executive Summary

At the request of the Chairman of the Mississippi Land, Water and Timber Resources Board (Board), the Performance Audit Division of the Office of the State Auditor (OSA) conducted a limited review of the two (2) projects under Mississippi Technology Alliance's (MTA) division of Mississippi Alternative Energy Enterprise (MAEE) Device Development program. The purpose of this review was to examine their management and oversight performance for the methane gas capture projects at Mills Dairy and M&N Swine Farm. In their initial review of the draft of this report, MTA stated that they did not believe they had any management and oversight responsibility with regard to these two projects and felt that they should not be criticized for problems outside of their control.

The Performance Audit Division conducted a test of financial records and expenditures related to the two (2) Device Development Projects in question. OSA staff verified that appropriate financial documentation was submitted with grant applications and found that it was not MTA/MAEE's internal accounting efforts that were the cause of the problems associated with these projects; consequently OSA examined MTA/MAEE project management and their contract issues. Contractor issues—that is, where the contractor failed to perform under their contract with the farm owners—were outside the scope of this report other than to identify them and note that MTA/MAEE is working with the owners to resolve those issues.

MTA reviewed the initial draft of this report and questioned findings related to their management and oversight responsibility. They believed that they had

no such responsibility and therefore should not be criticized for the projects' non-functioning status.

Both the Land, Water and Timber Board as well as OSA attorneys find that there was management and oversight responsibility for these projects on the part of MTA/MAEE. OSA recognizes that had MTA/MAEE viewed their responsibility differently, they may have acted differently with regard to contracts and contractual elements. Further, based on the additional and new information provided by MTA/MAEE, OSA finds that they did have regular contact with the farm owners and the contractor/vendor.

As a result of this additional information, in this revised review we note the following:

- While, OSA found their internal accounting to be sound, management and oversight performance of MTA/MAEE could be improved. According to MTA, they had no such responsibility and in fact, constructed their contracts with the owners of the farms in such a way as to reinforce this idea. Better internal management controls may have avoided some if not all of the problems associated with these projects. In the future, OSA recommends stronger contract elements including but not limited to deadlines, penalties for non-performance, payments only made for installed and properly functioning equipment, etc. OSA recommends that Land, Water and Timber:
 - approve all contracts and subcontracts for projects of this nature in the future and require the above elements to be in place;

- avoid “pass through” contracts and contract with the vendors directly or jointly with the owners where such projects will be located; and
 - be clear and specific in discussion as well as in contract language about the management and oversight responsibility for these projects.
- MTA/MAEE constructed contracts with the owners of the farms and then required the owners of the farms to contract separately with the vendors, thus making control of the project difficult at best. Because of the way MTA/MAEE designed their contracts, neither they nor the state had much ability to keep the vendor/contractor on schedule and accountable. MTA/MAEE contract construction and deliverable requirements were lacking in the contracts by the nature of their design. Contractor performance criteria and results monitoring of contractor services could have been more thorough. As noted above, contracts should contain specifications or deliverables with payment and deadlines tied to performance. Clear contract performance goals, including schedule and operating performance goals help ensure acceptable performance, timely fulfillment of deliverables, and compliance with terms of agreements. These guidelines will contribute to improving the accountability over expenditures for personal services.
- Delays were reported to Land, Water and Timber by MTA/MAEE in both projects on several occasions. MTA/MAEE’s response to these delays included on-site reviews of contractor’s activities. While MTA/MAEE reported as required to the LWT screening committee and Board, additional notification efforts could have been taken to further increase LWT’s awareness and response to the contractor performance issues that were identified by MTA/MAEE. Further, MTA/MAEE should include in its method of compliance, performance indicators for measuring outcomes, management expectations, and heightened reporting of results to LWT, including a system to improve effectiveness when performance issues are identified.

While some projects progress smoothly and serve the purpose for which they are intended, from time to time, others may not. This emphasizes the need for regular monitoring through progress reports and on-site visits. In the case of these two Device Development projects, identification of contract deliverables and increased monitoring could have

been useful in evaluating the contractor’s performance and monitoring for results achieved. When sufficient detail is provided in a contract for specific deliverables and the final results are expected from the contractor, then simply approving a detailed invoice which records the contractor’s actions may be sufficient.

In cases where contractor expectations and deliverables are not well defined—although this should never be the case, a formal monitoring process may be necessary whereby the management/oversight organization monitors the contractor’s actions to ensure they comply with the original agreement and/or deliver the agreed upon services and results. To that end, in the future, Land, Water, and Timber should require management and oversight in projects such as these and should also review and approve all subcontracts. The better the contracting process, i.e. details of requirements, expectation, benchmarks, etc., when the contract is made, the easier the monitoring will be for the agency once services are being delivered.

While this report offers findings and recommendations related to the operations of both the Mississippi Technology Alliance’s Alternative Energy Program and The Mississippi Land, Water and Timber Resources Board, several relevant points need to be made.

First, it should be noted that the LWT Board has changed many of its processes since these grants were awarded. When these agreements were approved, the LWT board had fewer standards in place (the board was new and still developing requirements). It is clear from their meeting minutes that they steadily adopted more stringent application requirements award criteria and grant/contract standards over the last several years. Also, since these projects were funded, the LWT Board has employed outside council to assist them with, among other things, contracts

Again, this OSA limited review has a very narrow focus. It is limited to only the MTA/MAEE financial and management controls for two of their numerous Alternative Energy projects. Specifically this review covered the M&N Swine and Mills Dairy Methane Gas Capture experiments. This report makes no judgment about MTA or MAEE as a whole, except to note that their accounting practices are adequate and they met the LWT reporting requirements.

TABLE OF CONTENTS

MAEE Management & Oversight Analysis	1
MAEE Performance Assessment.....	1
MTA/MAEE Management System: Accounting.....	1
MTA/MAEE Management System: Recordkeeping and Reporting	2
MTA/MAEE Management System: Project Management	3
MTA/MAEE Management System: Monitoring	4
Device Development Projects.....	5
Mills Dairy Farm Project	6
M&N Swine Farm Project	9
Findings and Recommendations	12
Conclusions.....	14
Appendix A: Formal Comments to this Review.....	17
Appendix B	24
Purpose.....	24
Scope.....	24
Methodology.....	24
Appendix C: Background	26
Land, Water and Timber Resources Board.....	26
Mississippi Technology Alliance/Mississippi Alternative Energy Enterprise	27
Mississippi Alternative Energy Enterprise	28
Appendix D: Job Descriptions.....	30
Appendix E: Agreements & Contracts	34

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MAEE Management & Oversight Analysis

The Mississippi Technology Alliance's (MTA) division of Mississippi Alternative Energy Enterprise (MAEE), has entered into two contracts with the Mississippi Land, Water and Timber Resources Board (Board/LWT). One of the contracts was strictly administrative; The purpose of the other agreement was to develop and manage Alternative Energy projects called Device Development Equipment Projects to be administered by MAEE. The Office of the State Auditor (OSA) was asked to review MTA/MAEE's management oversight of the two methane gas capture system projects located at Mills Dairy Farm and M&N Swine Farm.

MAEE has received or applied for grants as follows:

- Device Development Equipment Project Grant – This is a pass-through grant for two (2) experimental alternative energy projects designed to generate methane gas to run a generator that creates electricity,
- Program Administration Grant – Year 1 in the amount of \$849,750,
- Program Administration Grant – Year 2 in the amount of \$876,915, and
- Program Administration Grant Request – Year 3 in the amount of \$876,915. This amount was revised downward to \$653,200 and then later withdrawn.

To comply with the purpose of the grants request, MAEE selected two (2) farms, one (1) swine and one (1) dairy, for the project. MAEE also worked to locate contractors with appropriate expertise to design and build both systems.

MAEE Performance Assessment

Grant funds awarded have been expended and the two (2) projects are still not fully operational. Since the draft version of this report was presented on November 17, 2004, MTA/MAEE reports one of the projects has begun producing energy (as of November 29, 2004). Until these projects are fully functional, the program objectives of demonstrating and assisting in the commercialization of affordable and efficient devices to provide alternative energy for small farms, homes and businesses, and to involve communities in leveraging natural resources for alternative energy production are not being exhibited in a positive manner.

Contract deadlines and penalties were lacking in the two Device Development projects being reviewed. MAEE did not establish criteria to evaluate the contractor's performance or adequately monitor for results achieved from the contracted services in their contracts because MTA/MAEE was not part of the primary performance contract. Due to several factors outlined by MTA/MAEE, they operated under the assumption that they did not have primary management and oversight responsibility and constructed their contracts accordingly. For a copy of their operational assumptions and sample approved contracts see Appendix D: Agreements and Contracts.

MTA/MAEE Management System: Accounting

The Mississippi Technology Alliance also engages an independent accounting firm to conduct an external compliance audit of its books and records each year. This audit includes an assessment of internal controls and their effectiveness. This includes independent assessment, in accordance with federal standards, of the programs utilizing federal funds.

The Mississippi Technology Alliance currently utilizes a fully integrated accounting system (Microsoft Great Plains) to manage its accounting transactions. The Alternative Energy Enterprise is a project within the MTA accounting structure. Ordinary and customary operating expenses such as salaries; medical,

dental, disability, and life insurance; rent; travel; postage; contractual services; consulting services; printing; dues & subscriptions; equipment purchases; and supplies are charged directly to the Alternative Energy division. The administrative fee charged by the Mississippi Technology Alliance (MTA) to the Alternative Energy project is an overhead charge and accounts for all services and expenses not charged directly to the Alternative Energy project. The overhead rate is comprised of MTA salaries not directly charged to the project (MTA's President/CEO, MTA's Vice Presidents, Controller, Marketing, Public Relations and Receptionist). The management fee is also comprised of the following back office services not charged directly to the project: telephone, internet, network hosting, rent for shared space, faxing, copying, printing, and office supplies.

It is vital to the process that MTA continues to comply with these procedures. The lack of proper recordkeeping and reporting could lead to a loss of control and contractual compliance.

MTA/MAEE Management System: Recordkeeping and Reporting

OSA reviewed program and financial records relating to the planning process, operating procedures, and administration of programs. Written guidelines for performance assessment were in the form of employee job descriptions, not formal processes. Based on additional new information provided since the first draft of this report was released, OSA finds that MTA/MAEE did monitor and oversee these two device development projects (even though they believed this function to be outside of their responsibilities) in an effort to ensure these projects were completed. However, OSA finds that they could have reported their monitoring activities and findings in more detail to Land, Water and Timber. Their reporting consisted of routine reports—both in writing and in person—to the Board and the Screening Committee, as well as the required reports specified in the grant agreements for a semi-annual report.

The review of financial recordkeeping showed that MTA/MAEE's process is adequate, however based on documentation provided, OSA found their planning process to be inadequate because they failed to show action plans or work plans for all projects being reviewed. MTA/MAEE's internal operating procedures appeared to be adequate; however, their oversight processes need improvement. Relevant job descriptions can be found in Appendix C.

The Mississippi Technology Alliance utilizes internal reporting systems including written and in-person reporting and presentation to its Board of Directors, to program participants including the National Institute for Standards and Technologies (NIST), selected universities and community colleges, the Mississippi Land Water and Timber Resources Board, the US Economic Development Administration, and the MTA Liaison Committee of the State Legislature. According to MTA/MAEE, this reporting is conducted on an ongoing basis. However, documentation of reporting initially appeared to be inadequate. When OSA requested a list showing who they reported to about these projects and what dates they made those reports, MTA/MAEE was unable to provide that information. Similar issues were found with other project reporting and recordkeeping areas. However, since the initial draft of this report was released, MTA/MAEE has furnished OSA with information related to these types of activities and has shown that they undertook these activities in an adequate manner.

MTA/MAEE is subject to audit by the OSA at the request of the Board under state law. MTA is required to retain records for a period of three years from the date of the last disbursement of the grant or until such time as directed by OSA or the Board.

MTA is required to provide a semi-annual report in connection with the grants. This report provides a summary description of the projects and the progress made on each component of that project during the six-month period covered by the report. The initial report was provided to the Board and MDA at the six-month anniversary date of the grant agreement (May, 2003). A final report shall be provided by MTA/MAEE within sixty (60) days of the initial operation of the project. MTA/MAEE is subject to

periodic on-site visits by Land, Water and Timber to the project sites for status, inspection, and or verification purposes. MTA/MAEE has reported that a final report has been prepared and will be presented pending final resolution of issues and project completion. A final report for the MAEE Administrative Grant was provided to the LWT Board on November 17, 2004.

MTA/MAEE Management System: Project Management

MTA/MAEE does not have separate, specific written guidelines for project performance assessment other than job descriptions. These job descriptions outlined their intent to follow progress on and manage each project assigned. Documentation, correspondence, etc. provided showed that MTA/MAEE was aware of some problems associated with both projects. Site visits by MTA/MAEE (and in one instance, with OSA staff) identified performance issues beyond those reported by the contractor. MTA/MAEE was not completely aware of the severe magnitude of some of the problems at M & N Swine Farm.

While MTA/MAEE staff has identified numerous problems, they have been unable to make the contractor resolve them, in some part due to the structure of their contracts. However, they are using their contractual legal staff to get many of these problems resolved. They provided correspondence documenting their efforts in this area. Below is a brief and partial list of the more serious problems at each project site still outstanding. These problems have been identified by the MAEE Project Coordinator. For more explanation and a detailed description about each of the MAEE Device Development Projects being reviewed, see page 5.

Mills Dairy Farm Issues as of October 2004:

1. Nozzle configuration – The nozzle system does not cover an area sufficient to clean the barn floor or the removal of manure solids from the barn floor is not adequate;
2. Sand separator – The sand removal system does not operate at full design capability;
3. Pump sizing – The wash-up pump is not properly sized or the lagoon pump operates inefficiently;
4. Genset – The 100KW prime power genset has not been delivered;
5. Sump pump – The replacement pump that takes the manure out of the sand separator and into the digester has been delivered but is not installed;
6. Methane production – The digester is not producing biogas;
7. Design blue prints and vendor warranties – These items have been requested but not delivered;
8. Boiler hook-up – The boiler used to heat the digester has not been hooked up to a water line, heat exchanger, circulation pump, or a venting stack;
9. Header pipe – The header pipe has begun to dislocate from its intended position.

These items represent the most severe issues to be resolved and are not intended to be a complete list of all issues.

M&N Swine Farm Issues as of October 2004:

1. The scrubber needs to be raised to prevent flooding from rainwater;
2. The blower has been retrofitted and is configured in such a way that may damage it when operation commences;
3. The gas lines connected to the scrubber are also filling with water;
4. None of the system lines have regulators attached to them;
5. Line drainage problems are likely to cause environmental regulatory violations;
6. Uncorrected field drainage problems have resulted in standing water;
7. Other problems not identified until system is in full operation.

Again, these items represent the most severe issues to be resolved at the time of the initial review by OSA and are not intended to be a complete list of all issues. *Since OSA's last site visit, MTA/MAEE reports that several of these items have been fixed. According to MTA/MAEE since the initial draft of this report was issued, very few problems are present at M & N Swine Farm.*

MTA/MAEE Management System: Monitoring

Procedures to monitor all contracts relating to these two Device Development projects, including periodic on-site visits to confirm acceptable performance, timely fulfillment of deliverables, and compliance with the terms of the agreement had not been developed in the manner expected. OSA assumes that had MTA/MAEE believed they had management and oversight responsibility they would have performed differently. Since the initial draft of this report, MTA/MAEE has provided documentation including samples of weekly internal reports, consulting contracts to monitor performance, daily monitoring of contract and project performance and summaries of weekly group meetings within MAEE. MTA reports that both the contractor and the farmer were contacted frequently.

OSA believes the Land, Water and Timber Board should require management and oversight monitoring for each individual project as well as required reporting as soon as deficiencies are expected or noted. Construction projects of this nature often face routine delays due to weather and other unforeseen events, however, frequent on-site visits would effectively help assure that projects approved under the Act are beneficial to Mississippi and are functioning in compliance with Agreement terms. The absence of such monitoring could result in loss of internal controls and a lack of contractual compliance.

Device Development Projects

In 2002, LWT granted MTA/MAEE \$697,422 for Device Development Projects. Through amendments, these projects included both the Mills Dairy Farm Methane-Gas Digester System project and the M&N Swine Farm project in addition to a number of other projects. See the chart below. MTA/MAEE also received \$1,726,665 additional LWT grant funds over the last two years for administration of all alternative energy projects, which also includes a broad range of projects across the entire state. MTA/MAEE spent some of these administrative funds on signage, shipping costs, consultants, and lawyers related to the projects being reviewed. However, the funds discussed below are only for equipment and construction of the two Device Development projects and are not part of the administrative grant funds. In September 2003, LWT amended their grant agreement allowing them to adjust the budget per project as long as they did not go over their total grant amount. The budgeted/estimated costs for the Mills Dairy and M&N Swine Projects were \$367,000 and \$114,200 respectively. The actual costs were \$287,350 and \$106,890. Again, these figures do not reflect any administrative grant funds. MTA/MAEE believes that they did not have any management and oversight responsibility for these projects. However, they did perform certain management and oversight related activities such as site visits, legal assistance and intervention, etc. The Land, Water and Timber Board believes they did have that responsibility based on the contracts between the two organizations.

Device Development Projects as of September, 2004		
Description	Budget	Actual
Grant Amount from LWT (2002)	\$697,422.00	\$697,422.00
Mills Dairy Farm Methane-Gas Digester System Costs	367,000.00	287,350.00
M&N Swine Farm Project Costs	114,200.00	106,890.00
Combined Solar, Wind, & Hot Water Project Costs	84,222.00	169,486.27
Hybrid Solar Lighting System	100,000.00	29,128.95
MSU/Alcorn System Optimization Study	32,000.00	32,000.00
Subtotal	\$697,422.00	\$624,855.22
Balance of Device Development Projects	0.00	\$72,566.78

The Auditor's office requested "action-item plans" or work plans for both projects. Specific information, including completion due dates and actual completion dates, was requested. However, the initial information provided was not adequate to make a determination about the efficiency of project completion because A) there was no item completion plan available for the M&N Swine Farm Project and B) not all dates were provided as requested on the Mills Dairy Project. Initially MTA/MAEE did not provide OSA with clear information about the expected and actual completion dates of project elements. However, after their review of the initial draft, MTA/MAEE was able to provide the information requested by OSA in an adequate manner.

Mills Dairy Farm Project

Mills Dairy Farm, located near Forest, MS, was chosen by MTA/MAEE to incorporate methane gas capture equipment into their existing dairy operations in order to create fuel to run generators which in turn creates electricity used in the farm process. To date, \$287,350 has been invested in the Mills Dairy Farm Methane-Gas Digester System. The project is currently at a standstill and the system does not appear to work. The MTA/MAEE and the owner report that the following problems prohibit its completion:

- **Nozzle Configuration.** The nozzle system does not currently cover an area sufficient to clean the barn. Given the current configuration, the system can only clean 35% or less of the barn floor. The contractor claimed their system had the ability to clean the whole barn floor. The installed actuators did not close the valves quickly enough. MTA/MAEE reports that the design and construction of the barn were separate from the gas capture project, and were performed by the owner. MTA/MAEE states that they did not have oversight responsibility for that portion of the project.
- **Sand Separator.** According to the owner, the contractor agreed the sand removal system was improperly designed. The manure backs up in the separator and is causing severe environmental problems when the wash-up system is running. When the wash-up system is running, the separator is not adequate to contain the flow and allows manure to run into the fields. Not only is manure being improperly displaced, methane is being produced and prematurely released into the air.

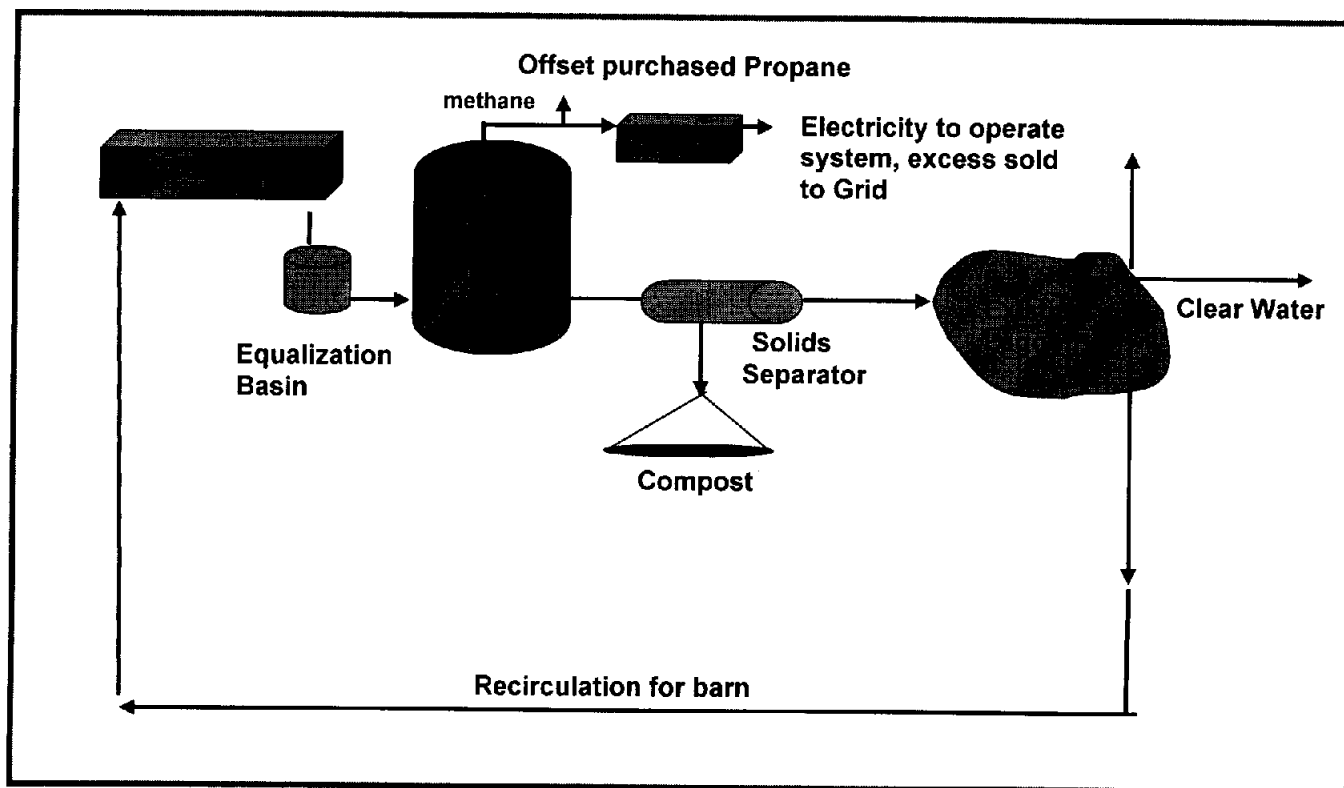
Also, the piping from the barn to the separator is clogged with sediment. The slope design and height of in-coming pipes are not adequate to effectively move the sediment out of the pipes and into the separator. At this time, sediment must be manually dislodged.

- **Pump sizing in the lagoon.** The wash-up pump located in the lagoon is not properly sized for the system design; neither the pressure provided nor the volume of water supplied is sufficient to clean the barn area. This has caused daily operational problems on the farm with the build-up of manure in the barns. Manure build-up is a health hazard for the cows and an environmental problem for the farm.
- **Genset.** The methane based 100KW prime power genset still needs to be purchased, set into place and hooked up to the digester system immediately. Also, negotiations have not been finalized with the power company.
- **Sump Pump.** The original sump pump couldn't handle the load and failed. Even the new pump may not be adequate. Whether or not the new pump will work will remain unknown until full operation of the system occurs. The replacement pump that takes the manure out of the sand separator and into the digester has been delivered but is not installed.
- **Methane production.** The digester currently does not produce biogas because the other problems are preventing the system from functioning.
- **Design blueprints and vendor warranties.** To date these items have not been received; they need to be remitted to the owner.
- **Boiler hook-up.** The boiler to heat the digester is not hooked up to a water line, heat exchanger, circulation pump, or a venting stack. This is necessary for the boiler to operate as designed.
- **Header Pipe.** The header pipe has begun to dislocate from its intended position. The pressure from the wash-up pump system has placed excessive pressure on the header system. While the pipe

has not completely dislodged, preventative measures need to be taken in order to avoid a catastrophic pipe failure.

Below is a general diagram showing the process which is supposed to work once all of the equipment is properly installed and functioning.

Dairy System Schematic



Mills Dairy Action Plan and Budgets

OSA asked MTA/MAEE on two separate occasions during the initial review to provide their work/action plans for both the Mills Dairy project and the M&N Swine Farm project. They were asked by OSA staff to submit both the original expected completion date (due date) and the actual completion date (completion date) for each major item of the projects. Initially, MTA/MAEE indicated to OSA staff that there was no action plan available for M&N Swine Farm and they were only able to provide a partial plan for Mills Dairy. After their review of the initial draft, MTA was able to provide OSA with action plans for both M&N Swine Farm and Mills Dairy. They are provided on the following pages along with the projects budget information.

Mills Dairy Action Plan

<u>Activities</u>	<u>Responsibility</u>	(03-31-03)	(09-10-03)	<u>Completion</u>
		<u>Original</u> <u>Due Date</u>	<u>Revised</u> <u>Due Date</u>	
1. Finalize working agreement issues	MAEE, Contractor	04-04-03	done	04-29-03
2. Refine planning assumptions	Mills, MAEE, Contractor	04-11-03	done	04-29-03
3. Execute project contract	MAEE, Contractor	04-14-03	done	04-29-03
4. Visit to Florida Dairies UF AD facility	All	04-16/17-03	done	05-30-03
5. Summarize situation at Mills Dairy	Contractor	04-17-03	done	02-13-03
6. Define communications/ reporting requirements	MAEE, Contractor	04-18-03	done	04-29-03
7. Concept design (Dairy design/waste treatment plant layout)	Contractor, Mills	05-02-03	done	07-18-03
8. Finalize all planning assumptions	Mills, MAEE, Contractor	05-02-03	done	04-29-03
9. Identify permit issues	Contractor, MAEE	05-09-03	done	07-25-03
10. Preliminary engineering and permit package	Contractor	05-14-03	09-15-03	02-11-04
11. Submit permit package	Contractor, MAEE	05-23-03	09-18-03	02-17-04
12. Meeting with contractors & suppliers	Contractor	05-23-03	10-15-03	Project on-hold
13. Revise project schedule	Contractor	05-23-03	done	09-10-03
14. Finalize design documents	Contractor	06-06-03	10-15-03	None received
15. Finalize equipment and contractors agreements	Contractor	06-16-03	11-30-03	Project on-hold
16. Project budget revisions (if needed)	Contractor	06-16-03	09-15-03	None received
17. Receive Permit	Contractor, MAEE	06-27-03	12-30-03	03-22-04 (letter)
18. Revise project schedule	Contractor	06-27-03	09-10-03	09-01-04
19. Procure equipment & materials	Contractor	06-30-03	12-15-04	09-18-03 on-going
20. Site preparation	Mills	07-02-03	done	09-03-03 barn 08-03-03 digester
21. Begin construction	Contractor	06-20-03	12-15-03	09-24-03
22. Complete construction	Contractor	09-15-03	03-15-04	Project on-hold
23. System start up & testing	Contractor	09-08-03	03-20-04	Project on-hold
24. Steady state operation	Contractor	10-17-03	06-05-04	Project on-hold

MTA/MAEE Note: The original due date was December 5, 2003 but was extended six months to June 5, 2004 by LWTRB. Schedules were delayed for a number of reasons including but not limited to: Farmer selection, contractor selection contract negotiations, learning curve, farmer education, subcontractor scheduling, and weather.

Below are the budgeted vs. actual expenses for the Mills Dairy Project. According to MTA/MAEE the original budget was based on a different system than what was finally installed (see notes at end of table). Thus far, the project, although not yet functioning, has cost the state \$79,650 less than originally expected.

Mills Dairy		Budgeted	Actual
mix tank	Excavation and Grading	\$ 2,000.00	\$ 15,030.00
	Cement Work	\$ 18,800.00	\$ -
	Manure Pump	\$ 11,300.00	\$ 11,515.64
	Other-(piping, installation)	\$ 2,300.00	\$ 32,365.53
digester	Excavation and Grading	\$ 8,500.00	\$ -
	Digester tank	\$ 88,700.00	\$ 90,667.13
	Heating	\$ 19,800.00	\$ 6,028.75
	Cover	\$ 8,100.00	\$ -
	Start-up	\$ -	\$ -
energy	Building	\$ 16,400.00	\$ 3,713.10
	Gas pipes	\$ 2,100.00	\$ -
	Gas pumps/ meter	\$ 2,000.00	\$ 4,048.53
	Engine generator- heat exchanger	\$106,000.00	\$ 29,557.00
	Chiller	\$ 10,000.00	\$ -
	Component and installation	\$ 31,000.00	\$ 48,824.32
services	Engineering and contingency	\$ 40,000.00	\$ 45,600.00
	Total	\$367,000.00	\$287,350.00

MTA/MAEE NOTE: Original budget items were based on a "plug flow scrape system." However, a "flush system" was determined to be more innovative, cheaper and would produce more methane. Therefore the actual system is a flush system. Given this change some budgeted items can vary significantly i.e. no cover was needed. No engine generator was ever provided by the contractor. The original contract amount was \$286,750 but \$600 extra was spent for consulting services on power issues.

M&N Swine Farm Project

M&N Swine Farm, located in Montpelier, MS was also chosen by MTA/MAEE to incorporate methane gas capture equipment into their existing swine operations in order to create fuel to run generators used in the farm process. To date \$106,890 has been invested in the M&N Swine Farm Project. This project is currently at a standstill and the system does not appear to work. MAEE and the owner have identified the following problems prohibit its completion:

- **Scrubber.** The scrubber apparently fills with a combination of ground water and rain water. This is a severe problem that impedes the gas flow to the heating system and causes the blower to be ineffective. The sub-contractor has suggested raising the scrubber out of the ground and placing it upstream from the blower to remedy this problem.
- **Blower.** The blower that was purchased by the contractor could not physically accommodate the piping from the digester, so the blower was reconfigured. Although this problem was solved, the owner remains concerned because the blower is located before the scrubber and he believes it has a high likelihood of being damaged by acid from the biogas. He does not suggest a specific action, but believes further reconfiguration where the blower uses suction to pull gas through the scrubber and then blows the scrubbed gas to the genset, versus pushing the gas through the scrubber to the genset would work better.

- **Gas lines.** The gas lines connected to the scrubber have filled with water. According to the subcontractor, the solution is to tie the current gas lines together and extend the lines to a raised scrubber which should be located before the blower.
- **Regulators.** None of the lines have regulators on them. Every time the genset comes on or a drop in gas production occurs, the system must be manually regulated by turning valves to make sure proper pressure is maintained.
- **Drainage.**
 - *Line drainage.* The line that was abandoned in order to re-route the manure from barns 3 & 4 catches ground water and drains it into the lagoon. This causes severe concern about environmental regulations requiring only rain water be allowed to enter the lagoon. The owner suggests that the pipe be capped off.
 - *Field drainage.* The owner states that surface water between the barns and methane gas collector reservoir is not draining correctly and actually leaves standing pools of water which breeds mosquitoes. The owner wants the surface area to be reinstated to its original draining capacity by the contractor.

Since OSA's last site visits to these projects, MAEE reports that these problems have been fixed.

M&N Action Plan

<u>Activities</u>	<u>Original Due Date</u>	<u>Completion Dates</u>
1. Feasibility study performed	02-12-02	02-12-02
2. Meeting with DEQ	07-30-03	07-25-03
3. Detailed financial model	06-30-03	06-09-03
4. Concept design (Swine, AD System)	08-15-03	09-09-03
5. Soil sample for clay lining	08-15-03	07-14-03
6. Farmer education on system	09-01-03	01-13-03 on-going
7. Requested investment from Prestage	10-15-03	06-25-03
8. Finalize working agreements and contracts	10-15-03	11-06-03
9. Finalize planning assumptions	10-15-03	11-06-03
10. Identify risk factors lending organizations	11-15-03	09-15-03
11. Engineering blueprints	11-01-03	Never received
12. Package to DEQ-	*11-27-03	Not Needed
13. DEQ Review	11-30-03	Not needed
14. Finalize and execute agreements	12-15-03	11-06-03
15. Site preparation	12-15-03	04-19-04
16. Procure all equipment	01-15-04	11-29-04
17. Begin construction	12-15-03	05-10-04
18. Complete Construction-	*02-19-04	11-29-04
19. Fill Lagoon-	*05-06-04	05-17-04
20. System setup & testing	04-11-04	11-29-04

*MTA/MAEE note: *These original dates were taken from the contract. The contract specifies dates by defining timelines from the date of execution. The original due date was December 5, 2003 but was extended six months to June 5, 2004 by LWTRB. Schedules were delayed for a number of reasons including but not limited to: Contractor selection, contract negotiations, subcontractor scheduling and weather.*

Below are the actual vs. budgeted expenses for the M&N Swine project.

M&N Swine Farm

	Budget	Actual
Excavation and grading	\$ 10,000.00	\$ 21,396.92
Heating exchanger	\$ 3,000.00	\$ -
Cover	\$ 13,200.00	\$ 26,400.00
Gas Handling-	\$ 10,000.00	\$ 9,155.00
Gas Pipes-	\$ 5,000.00	\$ 8,738.58
Engine Generator	\$ 60,000.00	\$ 25,000.00
Components and installation	\$ 3,000.00	\$ 1,199.50
Engineering and Contingency	\$ 10,000.00	\$ 15,000.00
Total	\$114,200.00	\$106,890.00

MTA/MAEE note: A heating exchanger was determined to not be needed. The gas is directly combusted in the barn.

Findings and Recommendations

OSA findings indicate project weaknesses. Recommendations are opportunities to strengthen future projects.

Finding

The review of financial recordkeeping showed that MTA/MAEE's process is adequate.

Recommendation

It is vital to the process that MTA continues to comply with these procedures.

Finding

Planning and management of these two projects was inadequate by MTA/MAEE. Additionally, each of the contracts was inadequately prepared from the standpoint of protecting the State's investment of taxpayer dollars. Specifically, contracts did not provide for deadlines with penalties for such items as missed deadlines, deliverables, errors and omissions, etc., nor did they have strong performance measures written in to them. Three separate contracts were created for each of these projects. Mississippi Land, Water and Timber Resources Board had a contract with MTA/MAEE for these projects. A second contract was signed by MTA/MAEE and the owner (of each farm). A third contract was signed by the owner (of each farm) and the contractor.

Recommendation

LWT should continue to require specific deliverables and time frames from grantees and sub-grantees in all future grants and loan agreements. They should review and approve all subcontracts making sure they contain strong performance elements and protection for state funds. Further, they should be very clear in both discussion and in writing about their expectation of management and oversight responsibilities.

Finding

MTA/MAEE did not develop adequate action/work plans for these projects. Although LWT did not require project action/work plans to be submitted and updated throughout the projects' timelines as part of their contractual agreements with MTA/MAEE, as part of any project, MTA/MAEE should have developed and monitored these plans.

Recommendation

LWT should require specific action-item work plans with deadlines and responsibilities for all projects, especially those with subcontractors and private entities. These work plans should be tied to deliverables and payments and should be updated when changes occur. MTA/MAEE should prepare work plans for all projects in order to document where problems may arise as well as their accomplishments and completion.

Finding

Procedures to monitor all contracts relating to these two Device Development projects, including periodic on-site visits to confirm acceptable performance, timely fulfillment of deliverables, and compliance with the terms of the agreement had not been developed in the manner OSA expected in projects of this nature.

Recommendation

LWT should require frequent monitoring with accurate and timely reporting for each individual project within their contractual agreements. Further, they should require added reporting when performance deficiencies are expected or actually occur. Frequent on-site visits with follow-up assessments would effectively help assure that projects approved under the Act are beneficial to Mississippi and are functioning in compliance with Agreement terms. The absence of such monitoring could result in loss of internal controls and a lack of contractual compliance.

Finding

MTA/MAEE project reporting to LWT should have been more detailed and more frequent. MTA/MAEE did not report to LWT certain contract issues that potentially indicated the need for legal action. Although delays were regularly reported to LWT by MAEE, the serious nature of the problems was not fully reported. At one point, the project at M & N Swine farm was completely stalled with equipment that was incorrectly installed, broken, had drainage problems, etc. Further, funds were paid to the contractor that should have been held in reserve until the project was completed.

Recommendation

Budgets and payments should be tied to performance. Budgets should be compared to actual cost periodically (quarterly or whatever is appropriate) on each project and reported to LWT. LWT should require periodic updates, especially in cases where notification of deficiencies is necessary. The guidelines for this process should be included in the application process.

Conclusions

At the request of the Land, Water and Timber Board, OSA conducted a test of financial records and expenditures related to the two (2) Device Development Projects as part of its limited review. OSA staff verified that appropriate financial documentation was submitted with grant applications and found that it was not MTA/MAEE's internal accounting efforts that were the cause of the problems associated with these projects; consequently OSA examined MTA/MAEE project management and their contract issues. Contractor issues—that is, where the contractor failed to perform under their contract with the farm owners—were outside the scope of this report other than to identify them and note that MTA/MAEE has been and continues to work with the owners to resolve those issues.

Both the Land, Water and Timber Board as well as OSA attorneys find that there was management and oversight responsibility for these projects on the part of MTA/MAEE. OSA noted shortfalls in the management and oversight performance of MTA/MAEE in both of these projects primarily relating to contract construction and additional reporting. Stronger internal management controls could have helped avoid many of the problems associated with these projects. Even though certain events, such as weather, equipment delivery and other unexpected events can delay project completion, some of the challenges these projects faced should have been dealt with differently. Some delays on projects like this may have been inevitable, however, the more serious issues should have been reported on in more detail at the time they were discovered.

In the future, MTA/MAEE should utilize stronger contract elements including deadlines, penalties for non-performance, payments only made for installed and properly functioning equipment. Further, Land, Water and Timber should construct strong contracts with penalties and performance measures and should review and approve all subcontracts.

OSA recommends that MTA/MAEE should always develop goals for each project and set deadlines for achieving those goals. Further, MTA/MAEE should utilize work plans that include major action item deadlines, records and reports on site visits, etc. MTA/MAEE should develop and implement a strategic monitoring plan for each project to include planned and unplanned site visits and contractor interviews. Any reasonable deadline that is in danger of not being met should send up a red flag. They should have deliverables clearly stated and a method for measuring compliance.

MTA/MAEE should take steps to ensure that all projects meet program requirements and expectations in the future. MTA/MAEE should include in its method of compliance, performance indicators for measuring outcomes, management expectations, and adequate reporting of results to LWT. It should also incorporate a system to improve and strengthen corrective actions when deficiencies are expected or noted.

While some projects progress smoothly and serve the purpose for which they are intended, from time to time, others may not. This emphasizes the need for regular monitoring through progress reports and on-site visits. In this case, contract deliverables and contract monitoring was lacking. MTA/MAEE did not establish criteria to evaluate the contractor's performance or monitor for results achieved from the contracted services. When sufficient detail is provided in a contract for specific deliverables and the final results are expected from the contractor, then simply approving a detailed invoice which records the contractor's actions may be sufficient. In cases where contractor expectations and deliverables are not well defined, a formal monitoring process may be necessary whereby the management/oversight organization monitors the contractor's actions to ensure they comply with the original agreement and/or deliver the agreed upon services and results. The better the contracting process, i.e. details of requirements, expectation, benchmarks, etc., when the contract is made, the easier the monitoring will be for the agency once services are being delivered.

MTA/MAEE contract deliverable requirements and contract monitoring goals should have been stronger and more specific. They did not establish criteria to evaluate the contractor's performance or monitor for results achieved from the contracted services. MTA/MAEE should adopt policies and procedures for service contract administration including, why services are needed, and appropriate evaluation criteria. All contracts should contain specifications or deliverables with payment and deadlines tied to them. There should be procedures to monitor all contracts to confirm acceptable performance, timely fulfillment of deliverables, and compliance with terms of agreements. These guidelines, if followed, will significantly improve the accountability over expenditures for personal services.

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Appendix A: Formal Comments to this Review



Mississippi Alternative Energy Enterprise
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(601) 960-3637 • FAX (601) 960-3605
www.msenergy.ms • info@msenergy.ms

The Honorable Phil Bryant
State Auditor
801 Woolfolk State Office Building
Jackson, MS 39201

Dear Mr. Bryant:

Thank you very much for providing us with a copy of OSA Performance Report #92 dated, February 7, 2005, for our review and comment. I understand from the face of your report that it is very limited in scope, as your office was not asked to review a number of items and activities that might have provided a more complete understanding of how the MAEE operated in several areas, and what has been accomplished over the past three years.

Thank you for the advice of your office in how we might more effectively serve in the future with respect to the very specific contract items your office reviewed. Thank you also for the professional manner in which your office staff members conducted themselves and for their courtesy toward our office throughout this helpful process.

In order that your office and others who are interested may have a more complete picture of our activities involving alternative energy operations, we have set out for you here an outline of information and summary of some accomplishments for the Mississippi Alternative Energy Enterprise project:

Project History & Funding

- The Mississippi Alternative Energy Enterprise (MAEE) was commissioned in 2002 with the mission of "utilizing Mississippi's God-given resources to further the state's energy independence"
- The initial project was envisioned to last two years.
- MAEE was funded to staff the project, beginning in the spring of 2002.
- Program funding was renewed for the second year in May, 2003.
- Two years of funding were stretched to last three years in order to conduct more work.
- MAEE created its own Steering Committee made up of energy leaders from Mississippi and surrounding states to advise on MAEE activities.

MAEE Goals

"Utilize Mississippi's God-given resources to further the state's energy independence."

1. Investigate alternative energy resources available within Mississippi.
2. Investigate alternative energy technologies which might utilize Mississippi's resources.
3. Short-term:
 - Develop & demonstrate systems where applicable technologies can be used with available resources.
 - Break down barriers to implementation.
4. Long-term:
 - Provide information and guidance to facilitate private-sector alternative energy economic development in Mississippi.
 - Foster an environment where developmental resources are directed toward promising technologies.

Some Success Stories:

Farm Methane Gas Capture Systems

- Systems capture methane from manure, producing electricity, heat, fertilizer, and reducing or eliminating odors.
- MSU chemical engineers are working to maximize the methane production using select bacteria.
- Swine program in full operation and producing electricity now; dairy program nearing completion.

Combined Technology Development Sites

- Solar, Wind, Battery, Solar Tracking & Inverter Systems at three sites across the state.
- First TVA connected site ever under their Green Power Switch Program (Booneville site).

Mini-Turbine Natural Gas Buses

MAEE helped with the commissioning of two natural gas-powered mini-turbine buses for public transport on the Mississippi Gulf Coast.

Review of Potential Projects

MAEE reviewed proposals by 29 different research and production groups who are interested in pursuing non-traditional energy production projects in Mississippi, providing a wealth of basic and applied research to the people of our state.

Ethanol & Biodiesel

- Commissioned the first state-wide feasibility studies on ethanol and Biodiesel – providing background for commercial production in the state.
- A number of commercial ethanol production operations currently being developed as a result.
- Facilitated cooperation with private facilities, universities and potential Biodiesel users.
- State's first commercial Biodiesel pump opened January 13, 2005 in Jackson (produced in Meridian). No state funds were used in the project; MAEE facilitated work at various stages with the Biodiesel producer.

"Sunburst" Solar Car Program

- Houston, Mississippi High School – Sundancer Solar Car Team was already national champions of solar car racing when MAEE was formed; with MAEE support they won three additional national championships and competed in an international race in Australia – first high school team ever to finish that race.
- MAEE worked with Houston High School to mentor other Mississippi schools to participate in solar car racing; students design, build and race road-worthy solar cars.
- Biloxi High School began racing in 2004; placed in national rankings in first year.
- Four high schools from Mississippi are expected to build cars and race in 2005.

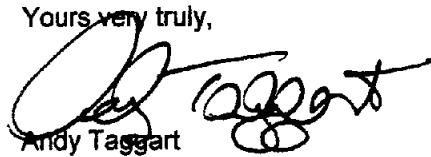
Federal Grants

MAEE leveraged state funds to help successful obtain over \$3,000,000 in federal grants to determine and demonstrate the feasibility of using wood waste, poultry litter, and other biomass materials for energy.

In short, we believe there is a bright future for non-traditional energy research and production in Mississippi, and we are pleased and honored to have been asked to play a small role in demonstrating the feasibility of some of these alternatives.

Thank you for this opportunity to work with your office, and for the opportunity to provide you with this outline of our activities. I look forward to working with you in service to the people of Mississippi.

Yours very truly,

A handwritten signature in black ink, appearing to read 'Andy Taggart', with a stylized flourish extending to the right.

Andy Taggart
President/CEO
Mississippi Technology Alliance

Appendix B

Purpose

The Performance Audit Division of the Office of the State Auditor (OSA) was asked by Commissioner Lester Spell to perform a limited review of the Mississippi Technology Alliance's (MTA) division of Mississippi Alternative Energy Enterprise (MAEE), a program of the Mississippi Land, Water and Timber Resources Board (Board). The purpose of this project is to review the organizational structure, method of recordkeeping, and review the progress of the Device Development Equipment Projects currently being administered by MAEE.

This report will:

- Provide background information on the Mississippi Land, Water and Timber Resources Board (Board), MTA, MAEE (division of MTA), and each of the projects being reviewed (Mills Dairy Farm and M&N Swine Farm);
- Review estimated versus actual costs of each of the two Device Development projects;
- Review proposed versus actual time line for project completion and issues preventing on-time completion;
- Describe issues preventing on-time completion;
- Review correspondence relating to each of the two Device Development projects;
- Provide findings and recommendations regarding MTA/MAEE's management of each of these Device Development projects;

Scope

The scope of this report is a review of the MTA/MAEE management of two Device Development Equipment projects. Regular independent annual audits of MTA/MAEE were reviewed as part of this project. However, the scope of this project does not include any additional detailed financial auditing, but rather focuses on MAEE's management and oversight process of two projects slated for completion prior to mid-2004, yet which, still remain incomplete and non-functioning.

Methodology

In conducting the review, OSA performed the following procedures:

- Reviewed applicable organizational structure; policies & procedures for project administration; project applications, grant/contract agreements; correspondence; financial information; & other sample projects;
- Conducted site visits;
- Summarized information on each of two Device Development Equipment projects administered by MTA/MAEE; and
- Interviewed appropriate parties.

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Appendix C: Background

Land, Water and Timber Resources Board

As part of its mission—established by §§69-46-1 and 69-46-3, Mississippi Code of 1972, Annotated—the Mississippi Land, Water Timber Resources Board (Board) provides grants and loan funds for a multitude of projects to assist the agriculture industry. This mission also includes alternative energy project development. Section 69-46-5, Mississippi Code of 1972, Annotated, establishes the powers and duties of the Board. Subsection (i) establishes the authority to pursue Alternative Energy projects: “(i) To encourage, promote and initiate the development of alternative energy strategies, applied research technologies and commercialization enterprises that focus on Mississippi natural resources, including, but not limited to, agriculture, timber and poultry products and byproducts.” Further, §69-46-7, Mississippi Code of 1972, Annotated, established the Mississippi Land, Water and Timber Resources Fund.

“The Mississippi Land, Water and Timber Resources Board may accept and expend funds appropriated or otherwise made available by the Legislature and funds from any other source in order to carry out the provisions of the Mississippi Land, Water and Timber Resources Act. Such funds shall be deposited into a special fund hereby established in the State Treasury, to be known as the “Mississippi Land, Water and Timber Resources Fund...”

The 2004 Land, Water, and Timber Board has the following members:

Appointed by Statute

The Chairman of the Senate Agriculture Committee	Honorable Cindy Hyde-Smith
The Chairman of the House of Representatives Agriculture Committee	Honorable Bo Eaton
The Chairman of the Senate Forestry Committee	Honorable Billy Harvey
The Executive Director of the Mississippi Development Authority	Mr. Leland Speed
The Commissioner of the MS Department of Agriculture & Commerce	Lester Spell, Jr., DVM
The President of the Mississippi Farm Bureau Federation	Mr. David Waide
The Director of the Cooperative Extension Service at MSU	Dr. Joe McGilberry
Professor at Alcorn State University	Dr. Gwendolyn Boyd
The Director of the Agricultural Finance Division of the Mississippi Development Authority	Mr. Chance Carter
The Director of the Agricultural Marketing Division of the Mississippi Department of Agriculture and Commerce	Mr. Patrick Sullivan
The Executive Director of the Mississippi Forestry Commission	Mr. James L. Sledge, Jr.

Appointed by the Governor

Three individuals who are active producers of Mississippi land, water, or timber commodities (one from each Supreme Court District).

1 st District.....	Mr. Chat Phillips
2 nd District.....	Ms. Suzy McDonald
3 rd District.....	Mr. Danny L. Dillworth

Mississippi Technology Alliance/Mississippi Alternative Energy Enterprise

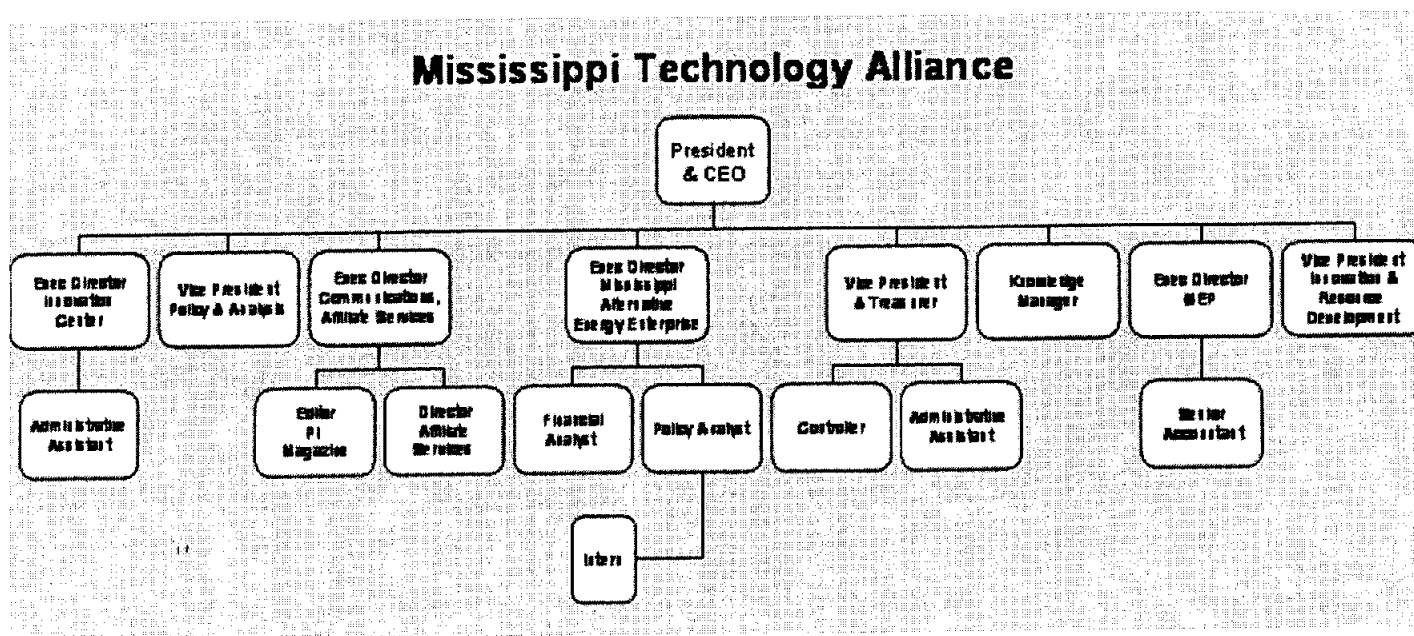
The Mississippi Technology Alliance (MTA) is a publicly funded, non-profit organization with a mission to promote technology-based economic development in Mississippi. The MTA Board of Directors consists of private sector, academic, and government individuals. MTA activities try to link academic, government and private sectors to facilitate the life cycle from basic and applied research, to commercialization, investment and business growth and expansion.

Organizational Structure

The Mississippi Technology Alliance is a non-profit 501(c)(3) and therefore has no owners. MTA is governed by a Board of Directors comprised of private, governmental, and university leaders.

To accomplish this mission, the Technology Alliance focuses on six strategic areas: (1) enhancing and leveraging the state's research capacity, (2) accelerating small business innovation and applied research funding assistance, (3) fostering business/industry/community academic partnerships and alliances, (4) promoting technology workforce development, (5) championing investment capital development, and (6) encouraging the creation of technology parks and incubators. The Technology Alliance also supports public dissemination of information about technology-related activities via its publication of *Pointe Innovation* magazine; administers the Mississippi Alternative Energy Enterprise division; coordinates Mississippi's United States Academic Decathlon effort; and the Mississippi Manufacturing Extension Partnership under the National Institute of Standards and Technology.

This program of work is carried out in cooperation and partnership with state and federal agencies and institutions, local economic development organizations, private businesses, and government and academic leaders.



Mississippi Alternative Energy Enterprise

In the 2002 session, legislation authorized funding to develop alternative energy resources for Mississippi. The Mississippi Technology Alliance, in cooperation with the Mississippi Department of Agriculture and Commerce, received funding from the MS Land, Water and Timber Resources Board to establish The Mississippi Alternative Energy Enterprise (MAEE) program. The program objectives include projects to demonstrate and help commercialize affordable and efficient devices to provide energy for small farms, homes or businesses and to involve rural communities in leveraging natural resources for alternative energy production. MAEE staff consists of a Director, Project Assistant, Project Coordinator and a Public Affairs Coordinator. MAEE works to coordinate efforts of industry, research universities, and federal, state and local government into a cohesive energy strategy for the state.

MTA's MAEE division has a mission is to coordinate the efforts of industry, research universities, and government and to assess the applicability of existing alternative energy technologies, and to apply these technologies to Mississippi's resources. The Enterprise is administered by the Mississippi Technology Alliance. According to their website their main objectives are to:

- Develop an Alternative Energy Strategic Agenda for the State of Mississippi;
- Provide direction on regulatory, policy, and community initiatives required to implement that agenda;
- Assess existing alternative energy technologies, and apply these technologies to benefit communities and individuals in Mississippi; and
- Create key working relationships with the various stakeholders in alternative energy, including universities, industries, communities, federal, state and local governments.

Their overall mission is to place affordable, efficient, and effective prototype Alternative Energy System into operation. Their process involves the assessment of community needs, the assessment of technology options, and the development of a plan to proliferate suitable technologies.

According to MAEE, alternative energy products such as ethanol fuel or solar power are not readily accessible; at the same time Mississippi natural resources and agricultural by-products are available for use as alternative energy-producing inputs. The MAEE states that it works to close this gap by creating access to existing and emerging technologies, supporting demonstrating options, educating users to the benefits of alternative energy, and bringing researchers and users together.

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Appendix D: Job Descriptions

MISSISSIPPI TECHNOLOGY ALLIANCE

JOB TITLE: Executive Director **DIVISION:** Alternative Energy

REPORTS TO: President **SUPERVISES:** All division personnel

BASIC FUNCTIONS: This position is responsible for directing project personnel, budgeting, contracting, marketing, planning, and coordinating activities for the division by performing the following duties personally or through subordinate staff.

JOB RESPONSIBILITIES:

1. Confers with project coordinator(s) to outline work plan, assigns duties and responsibilities; provides technical advice, resolves problems, and ensures projects progress on schedule and within prescribed budget.
2. Collaborates with internal divisions and external partners and allies in the development and implementation of project or business strategies, plans, and models.
3. Establishes and manages relationships with project funding source representatives, contract consultants, and allies.
4. Reviews reports prepared by project personnel and prepares reports for management, clients, or others.
5. Coordinates with MTA support activities and ensures compliance with procedures.
6. Performs other reasonable related duties as assigned by the President.

SKILLS/QUALIFICATIONS:

EDUCATION: A minimum of a Masters degree and preferably a Doctorate. Major course work or professional training in business, marketing, public policy, economic and community development, or related fields is desired.

EXPERIENCE: At least, five years of increasingly responsible experience in managing projects or economic/community development activities is preferred. Must have knowledge of public and private resources capable of implementing a variety of projects or promoting technology-based economic development. Must be experienced with managing personnel and participating on an interdisciplinary research and development team. Interpersonal communication skills are extremely important.

OTHER: Must be able to work independently and meet deadlines. Overtime, weekend work and travel, maybe necessary.

Mississippi Technology Alliance

Job Description:

Title: Project Coordinator/Financial Analyst

Basic Functions: This position coordinates a variety of current and prospective projects or business development activities. This position will work on multiple projects with others or individually. This position may supervise administrative assistant or intern.

Job Responsibilities:

- 1.) Helps conceptualize and coordinate development of project proposals and work plans.
- 2.) Implements assigned project work plans and manages resources in the conduct of assigned projects.
- 3.) Performs financial analysis and due diligence process for potential and existing projects.
- 4.) Coordinates project logistical flow and completes projects/analysis with a timely delivery, on schedule, and in accordance with established procedures or regulations.
- 5.) Assists in contractual negotiations and editing.
- 6.) Creates and makes presentations on projects and financial analysis.
- 7.) As necessary, functions as a liaison between public and private organizations, representatives, contract consultants, and vendors.
- 8.) Performs other reasonable duties as assigned by immediate supervisor or other management personnel as required.

Skills and Qualifications

Education: A minimum of a Masters degree in Business, Finance, Accounting or other related fields with major course work in business. Course work should include marketing, finance, accounting, computer training and communications.

Experience: At least two years of increasingly responsible experience in projects coordination for business, education, governmental, or non-profit institutions is preferred. Must have knowledge of public and private resources that are capable of implementing a variety of projects or business development services. Must have experience in scheduling, internet research, electronic spreadsheets and presentation software packages. Communication and writing skills are extremely important.

Other: Must be able to work independently and meet deadlines. Some overtime, weekend work, and occasional travel may be necessary.

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Appendix E: Agreements & Contracts

This appendix includes assumptions driving the contract construction and samples of contracts used in the course of these projects

-----Original Message-----

From: Tony Jeff

Sent: Tuesday, November 30, 2004 2:36 PM

To: Bubba Weir

Cc: Ben Teague

Subject: RE: [Fwd: MTA] - additional info request

This could easily become a LONG explanation, but here is the general reasoning:

We were never envisioned to be the contractors for these systems, so it was never considered to have contracts where the farmers would be hiring MAEE to build the systems. The contracts were set up consistent with the role of MAEE as facilitators, but not contractors, for the projects. From the beginning, the role of MTA was to 1) Choose the appropriate technologies to fit Mississippi 2) Find homeowners & farmers willing to host the technologies 3) Choose technology providers and 4) Facilitate the installation of the technologies.

MAEE had tried several different models in an attempt to best reflect this role in the projects. In the device development projects, we actually hired the contractor directly, while having a separate agreement with the homeowner. This was somewhat awkward because the systems were then "gifted" to the homeowner who was a fairly passive participant in the process but who owned the entire system after installation. This configuration also complicated the maintenance and repair aspects of the projects..

In an attempt to make this process more streamlined, and because of the possibility of unknown, pre-existing environmental, permitting, or other compliance issues on a commercial farm, we decided that it would be best if the farmer contracted directly with the contractor. MAEE played a large role in selecting the contractor and helped the farmer through the process, but the farmer and the turn-key contractor each had specific contractual roles to fill in the construction while MAEE simply passed the funds to the farmer.

We had not yet settled on the currently favored option of arranging the project with the landowner & the contractor & having the landowner apply directly for the funding. (Like the John Logan project.) At the time, the MAEE → Farmer & Farmer → Contractor arrangement seemed the best for the situation.

That's really it, but please let me know if you would like more information.

-Tony

-----Original Message-----

From: Bubba Weir

Sent: Tuesday, November 30, 2004 12:43 PM

To: Tony Jeff

Cc: Ben Teague

Subject: FW: [Fwd: MTA] - additional info request

Tony: I need your help on a response to the following:

Why did MTA/MAEE structure the contracts the way they did and why didn't you have a direct contract with Agriclean?

Thereupon, Mr. Dan Tucker offered and moved the adoption of the following resolution:

RESOLUTION APPROVING A GRANT IN THE AMOUNT OF \$849,750 TO THE MISSISSIPPI TECHNOLOGY ALLIANCE, UNDER THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES ACT; APPROVING THE FORM OF AND AUTHORIZING AND APPROVING THE EXECUTION AND DELIVERY OF A GRANT AGREEMENT BY AND BETWEEN THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES BOARD AND THE MISSISSIPPI TECHNOLOGY ALLIANCE; AND FOR RELATED PURPOSES.

WHEREAS, the Mississippi Land, Water and Timber Resources Act, being Sections 69-46-1 *et seq.*, Mississippi Code of 1972, as amended (the "Act"), was enacted for the purpose of assisting the agricultural industry in the State of Mississippi (the "State") in the development, marketing and distribution of agricultural products by providing loans or grants for qualifying projects; and

WHEREAS, under the Act and guidelines adopted by the Mississippi Land, Water and Timber Resources Board (the "Board") under the Act (the "Guidelines"), the Board is authorized to make loans or grants to approved entities for projects meeting the requirements of the Act and the Guidelines; and

WHEREAS, the Mississippi Technology Alliance ("MTA") did previously make application to the Board for a grant under the Act in the amount of \$849,750 to be used to finance the development of agricultural/resource based fuel sources for energy production (the "Project"); and

WHEREAS, the Project is authorized by the Act; and

WHEREAS, on January 28, 2002, the Board approved a grant in the amount of \$849,750 (the "Grant") to MTA; and

WHEREAS, there has been prepared and submitted to the Board the form of a Grant Agreement by and between the Board and MTA outlining the obligations of MTA with regard to the Grant and the Project, (the "Grant Agreement") which Grant Agreement is attached as Exhibit A hereto and incorporated herein by this reference thereto; and

WHEREAS, it appears that the Grant Agreement which document is now before the Board, is in appropriate form and is an appropriate document for the purpose identified; and

WHEREAS, all conditions, acts and things required by the Act and the Constitution and laws of the State to have existed, to have happened, and to have been performed precedent to and in connection with the adoption of this resolution and the execution of the Grant Agreement have happened and have been performed in regular and due time, form and manner as required by law.

NOW, THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED BY THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES BOARD, AS FOLLOWS:

SECTION 1. The Board does hereby ratify its approval of the Grant.

SECTION 2. The form of the Grant Agreement in the form submitted to this meeting and made a part of this resolution as though set forth in full herein be, and the same hereby is, approved in substantially said form. The Co-Chairmen of the Board are hereby authorized and directed to execute and deliver the Grant Agreement on behalf of the Board with such changes, insertions, and omissions as may be approved by such officers, said execution being conclusive evidence of such approval.

SECTION 3. From and after the execution and delivery of the Grant Agreement, the proper officers, directors, agents and employees of the Board and the State are hereby authorized, empowered and directed to do all such acts and things and to execute all such other documents as may be necessary to carry out and comply with the provisions of the Grant Agreement.

SECTION 4. All resolutions and orders, or parts thereof, in conflict herewith are, to the extent of such conflict, hereby repealed, and this resolution shall become effective immediately.

Dr. Joe McGilberry seconded the motion to adopt the foregoing resolution, and the question being put to a vote the result was as follows:

The motion having received the affirmative vote of a majority of the members of the Board present, being a quorum of said Board, Co-Chairman Lester Spell, Jr. declared the motion carried and the resolution adopted, this 28th day of January, 2002.

EXHIBIT A
GRANT AGREEMENT

RESOLUTION APPROVING A GRANT IN THE AMOUNT OF \$92,500 TO MISSISSIPPI TECHNOLOGY ALLIANCE—ALTERNATIVE ENERGY ENTERPRISE, UNDER THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES ACT; APPROVING THE FORM OF AND AUTHORIZING AND APPROVING THE EXECUTION AND DELIVERY OF A GRANT AGREEMENT BY AND BETWEEN THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES BOARD AND MISSISSIPPI TECHNOLOGY ALLIANCE—ALTERNATIVE ENERGY ENTERPRISE; AND FOR RELATED PURPOSES.

WHEREAS, the Mississippi Land, Water and Timber Resources Act, being *Miss. Code Ann.* §§69-46-1 *et seq.*, as amended (the "Act"), was enacted for the purpose of assisting the agricultural industry in the State of Mississippi (the "State") in the development, marketing and distribution of agricultural or alternative energy agricultural products or projects by providing loans or grants for qualifying projects; and

WHEREAS, under the Act and guidelines adopted by the Mississippi Land, Water and Timber Resources Board (the "Board") under the Act (the "Regulations"), the Board is authorized to make loans or grants to approved entities for projects meeting the requirements of the Act and the Guidelines; and

WHEREAS, Mississippi Technology Alliance—Alternative Energy Enterprise ("MTA") did previously make application to the Board for a grant under the Act in the amount of \$92,500 to provide funding for a biodiesel study and an ethanol study (the "Project"), as more fully described in the Fact Sheet attached as Exhibit A hereto and incorporated herein by reference thereto; and

WHEREAS, the Project is authorized by the Act; and

WHEREAS, on October 17, 2002, the Board approved a grant in the amount of \$92,500 (the "Grant") to MTA; and

WHEREAS, there has been prepared and submitted to the Board the form of a Grant Agreement by and between the Board and MTA outlining the obligations of MTA with regard to the Grant and the Project, (the "Grant Agreement") which Grant Agreement is attached as Exhibit B hereto and incorporated herein by this reference thereto; and

WHEREAS, it appears that the Grant Agreement which document is now before the Board, is in appropriate form and is an appropriate document for the purpose identified; and

WHEREAS, all conditions, acts and things required by the Act and the Constitution and laws of the State to have existed, to have happened, and to have been performed precedent to and in connection with the adoption of this resolution and the execution of the Grant Agreement have happened and have been performed in regular and due time, form and manner as required by law.

NOW, THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED BY THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES BOARD, AS FOLLOWS:

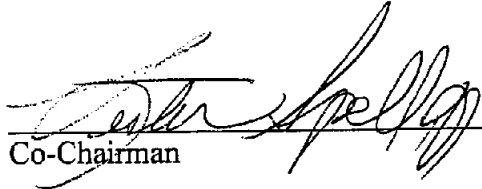
SECTION 1. The Board does hereby ratify its approval of the Grant.

SECTION 2. The form of the Grant Agreement in the form submitted to this meeting and made a part of this resolution as though set forth in full herein be, and the same hereby is, approved in substantially said form. The Co-Chairmen of the Board are hereby authorized and directed to execute and deliver the Grant Agreement on behalf of the Board with such changes, insertions, and omissions as may be approved by such officers, said execution being conclusive evidence of such approval.

SECTION 3. From and after the execution and delivery of the Grant Agreement, the proper officers, directors, agents and employees of the Board and the State are hereby authorized, empowered and directed to do all such acts and things and to execute all such other documents as may be necessary to carry out and comply with the provisions of the Grant Agreement.

SECTION 4. All resolutions and orders, or parts thereof, in conflict herewith are, to the extent of such conflict, hereby repealed, and this resolution shall become effective immediately.

The resolution adopted, this the 17th day of October 2002.


Co-Chairman

ATTEST:

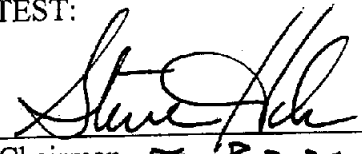

Co-Chairman FOR ROBERT ROYAL

EXHIBIT A

PROJECT FACT SHEET

**MISSISSIPPI LAND, WATER AND TIMBER RESOURCES
ASSISTANCE REQUEST FACT SHEET - COMPANY**

COMPANY INFORMATION

PROJECT NUMBER: AE -004

COMPANY NAME: Mississippi Technology Alliance

COMPANY CONTACT: Tony Jeff
Project Manager-Miss. Alternative Energy Enterprise

ADDRESS: 700 N. State Street; Suite 300A
Jackson, MS 39202

ADDRESS: 700 N. State Street; Suite 300A
Jackson, MS 39202

PRINCIPAL OWNERS: MTA

PHONE #'s: 601-960-3636
FAX:

TYPE OF BUSINESS: Non-profit

SIC CODE:

PROJECT & FUNDING INFORMATION

This project requires matching funds to supplement studies on biodiesel and ethanol production in the state.

IN STATE LOCATION & ADDRESS: statewide

NEW OR EXPANSION?
NEW

LOAN /GRANT INFORMATION: LOAN REQUEST \$

GRANT REQUEST \$92,500

INTEREST RATE

TERM:

TOTAL AMOUNT OF PROJECT: \$ 92,500

USE OF LWT ASSISTANCE:

LAND: \$

BUILDING: \$

OTHER: \$92,500

OTHER ASSISTANCE OR FINANCING PROGRAMS APPLIED FOR OR COMMITTED:

Department of Energy Grant and Funds from potential ethanol producers

EMPLOYMENT INFORMATION

PAYROLL INFORMATION

CURRENT:

CURRENT:

AFTER PROJECT:

ANTICIPATED
PAYROLL:

NET NEW JOBS:

NET INCREASE:

EXHIBIT B

GRANT AGREEMENT

RESOLUTION APPROVING A GRANT IN THE AMOUNT OF \$697,422 TO MISSISSIPPI TECHNOLOGY ALLIANCE—ALTERNATIVE ENERGY ENTERPRISE, UNDER THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES ACT; APPROVING THE FORM OF AND AUTHORIZING AND APPROVING THE EXECUTION AND DELIVERY OF A GRANT AGREEMENT BY AND BETWEEN THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES BOARD AND MISSISSIPPI TECHNOLOGY ALLIANCE—ALTERNATIVE ENERGY ENTERPRISE; AND FOR RELATED PURPOSES.

WHEREAS, the Mississippi Land, Water and Timber Resources Act, being *Miss. Code Ann.* §§69-46-1 *et seq.*, as amended (the "Act"), was enacted for the purpose of assisting the agricultural industry in the State of Mississippi (the "State") in the development, marketing and distribution of agricultural or alternative energy agricultural products or projects by providing loans or grants for qualifying projects; and

WHEREAS, under the Act and the Regulations adopted by the Mississippi Land, Water and Timber Resources Board (the "Board") under the Act (the "Regulations"), the Board is authorized to make loans or grants to approved entities for projects meeting the requirements of the Act and the Regulations; and

WHEREAS, Mississippi Technology Alliance—Alternative Energy Enterprise ("MTA") did previously make application to the Board for a grant under the Act in the amount of \$697,422 to be applied to the purchase and install a methane gas capture system on a swine farm, a methane gas capture system on a dairy farm, and a hybrid solar lighting unit (the "Project"), as more fully described in the Fact Sheet attached as Exhibit A hereto and incorporated herein by reference thereto; and

WHEREAS, the Project is authorized by the Act; and

WHEREAS, on December 5, 2002, the Board approved a grant in the amount of \$697,422 (the "Grant") to MTA; and

WHEREAS, there has been prepared and submitted to the Board the form of a Grant Agreement by and between the Board and MTA outlining the obligations of MTA with regard to the Grant and the Project, (the "Grant Agreement") which Grant Agreement is attached as Exhibit B hereto and incorporated herein by this reference thereto; and

WHEREAS, it appears that the Grant Agreement which document is now before the Board, is in appropriate form and is an appropriate document for the purpose identified; and

WHEREAS, all conditions, acts and things required by the Act and the Constitution and laws of the State to have existed, to have happened, and to have been performed precedent to and in connection with the adoption of this resolution and the execution of the Grant Agreement have happened and have been performed in regular and due time, form and manner as required by law.

NOW, THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED BY THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES BOARD, AS FOLLOWS:

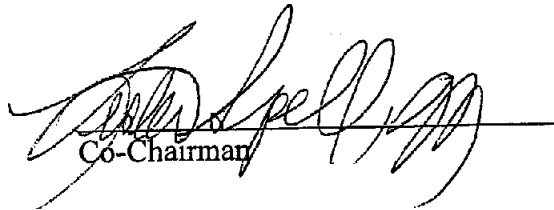
SECTION 1. The Board does hereby ratify its approval of the Grant.

SECTION 2. The form of the Grant Agreement in the form submitted to this meeting and made a part of this resolution as though set forth in full herein be, and the same hereby is, approved in substantially said form. The Co-Chairmen of the Board are hereby authorized and directed to execute and deliver the Grant Agreement on behalf of the Board with such changes, insertions, and omissions as may be approved by such officers, said execution being conclusive evidence of such approval.

SECTION 3. From and after the execution and delivery of the Grant Agreement, the proper officers, directors, agents and employees of the Board and the State are hereby authorized, empowered and directed to do all such acts and things and to execute all such other documents as may be necessary to carry out and comply with the provisions of the Grant Agreement.

SECTION 4. All resolutions and orders, or parts thereof, in conflict herewith are, to the extent of such conflict, hereby repealed, and this resolution shall become effective immediately.

The resolution adopted, this the 5th day of December 2002.


Co-Chairman

ATTEST:



Co-Chairman **FOR ROBERT ROUREAC**

EXHIBIT A

PROJECT FACT SHEET

**MISSISSIPPI LAND, WATER AND TIMBER RESOURCES
ASSISTANCE REQUEST FACT SHEET - COMPANY**

COMPANY INFORMATION		PROJECT NUMBER: AE -003	
COMPANY NAME: Mississippi Technology Alliance		COMPANY CONTACT: Tony Jeff, Project Manager	
ADDRESS: 700 N. State Street, Suite 300A Jackson, MS 39202		ADDRESS: 700 N. State Street, Suite 300A Jackson, MS 39202	
PRINCIPAL OWNERS: N/A		PHONE #'s: 601-960-3636 FAX:	
TYPE OF BUSINESS:		SIC CODE:	
PROJECT & FUNDING INFORMATION Purchase and installation of non-traditional energy devices			
IN STATE LOCATION & ADDRESS: Various locations in Mississippi			NEW OR EXPANSION? new
LOAN /GRANT INFORMATION: LOAN REQUEST \$ GRANT REQUEST \$697,422			
INTEREST RATE	TERM:	TOTAL AMOUNT OF PROJECT: \$ 697,422	
USE OF LWT ASSISTANCE:			
LAND: \$	BUILDING: \$	EQUIPMENT: \$697,422	
OTHER ASSISTANCE OR FINANCING PROGRAMS APPLIED FOR OR COMMITTED: N/A			
EMPLOYMENT INFORMATION		PAYROLL INFORMATION	
CURRENT:		CURRENT:	
AFTER PROJECT:		ANTICIPATED PAYROLL:	
NET NEW JOBS:		NET INCREASE:	

EXHIBIT B

GRANT AGREEMENT

Thereupon, Derrick Dahl offered and moved for the adoption of the following resolution:

RESOLUTION APPROVING A GRANT IN THE AMOUNT OF \$876,915 TO MISSISSIPPI TECHNOLOGY ALLIANCE UNDER THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES ACT; APPROVING THE FORM OF AND AUTHORIZING AND APPROVING THE EXECUTION AND DELIVERY OF A GRANT AGREEMENT BY AND BETWEEN THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES BOARD AND MISSISSIPPI TECHNOLOGY ALLIANCE; AND FOR RELATED PURPOSES.

WHEREAS, the Mississippi Land, Water and Timber Resources Act, being *Miss. Code Ann.* §§69-46-1 *et seq.*, as amended (the "Act"), was enacted for the purpose of assisting the agricultural industry in the State of Mississippi (the "State") in the development, marketing and distribution of agricultural or alternative energy agricultural products or projects by providing loans or grants for qualifying projects; and

WHEREAS, under the Act and the Regulations adopted by the Mississippi Land, Water and Timber Resources Board (the "Board") under the Act (the "Regulations"), the Board is authorized to make loans or grants to approved entities for projects meeting the requirements of the Act and the Regulations; and

WHEREAS, the Mississippi Technology Alliance ("MTA") did previously make application to the Board for a grant under the Act in the amount of \$876,915 to be used for program administration of Year 2 of the Mississippi Alternative Energy Enterprise by MTA (the "Project"), as more fully described in the Fact Sheet attached as Exhibit A hereto and incorporated herein by reference thereto; and

WHEREAS, the Project is authorized by the Act; and

WHEREAS, on May 23, 2003, the Board approved a grant in the amount of \$876,915 (the "Grant") to MTA; and

WHEREAS, there has been prepared and submitted to the Board the form of a Grant Agreement by and between the Board and MTA outlining the obligations of MTA with regard to the Grant and the Project (the "Grant Agreement"), which Grant Agreement is attached as Exhibit B hereto and incorporated herein by this reference thereto; and

WHEREAS, it appears that the Grant Agreement, which document is now before the Board, in appropriate form and an appropriate document for the purpose identified; and

WHEREAS, all conditions, acts and things required by the Act and the Constitution and laws of the State to have existed, to have happened, and to have been performed precedent to and in connection with the adoption of this resolution and the execution of the Grant Agreement have happened and have been performed in regular and due time, form and manner as required by law.

NOW, THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED BY THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES BOARD, AS FOLLOWS:

NOW, THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED BY THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES BOARD, AS FOLLOWS:

SECTION 1. All recitations hereinabove made are found and adjudicated to be true and correct.

SECTION 2. The Board does hereby ratify its approval of the Grant.

SECTION 3. The form of the Grant Agreement in the form submitted to this meeting and made a part of this resolution as though set forth in full herein be, and the same hereby is, approved in substantially said form. The Co-Chairmen of the Board are hereby authorized and directed to execute and deliver the Grant Agreement on behalf of the Board with such changes, insertions, and omissions as may be approved by such officers, said execution being conclusive evidence of such approval.

SECTION 4. As set forth in the Grant Agreement, it is the desire of the Board that the Mississippi Development Authority ("MDA") administer the disbursement of the Grant in accordance with the Guidelines and its guidelines and procedures. The Co-Chairmen of the Board be and are hereby authorized and directed to deliver a copy of this resolution and the executed Grant Agreement to MDA.


SECTION 5. From and after the execution and delivery of the Grant Agreement, the proper officers, directors, agents and employees of the Board and the State are hereby authorized, empowered and directed to do all such acts and things and to execute all such other documents as may be necessary to carry out and comply with the provisions of this resolution and the Grant Agreement.

SECTION 6. All resolutions and orders, or parts thereof, in conflict herewith are, to the extent of such conflict, hereby repealed, and this resolution shall become effective immediately.

Dr. Gwendolyn Boyd seconded the motion to adopt the foregoing resolution, and the question was put to a vote.

The motion having received the affirmative vote of all of the members of the Board present, being a quorum of said Board, Co-Chairman Spell declared the motion carried and the resolution adopted this the 23rd day of May 2003.

Accepted and Approved By:


Co-Chairman



Co-Chairman

EXHIBIT A

PROJECT FACT SHEET

**MISSISSIPPI LAND, WATER AND TIMBER RESOURCES
ASSISTANCE REQUEST FACT SHEET – COMPANY**

COMPANY INFORMATION		PROJECT NUMBER: LWT –LW039	
COMPANY NAME: Mississippi Technology Alliance		COMPANY CONTACT: Tony Jeff	
ADDRESS: 700 North State Street Suite 300A Jackson, Mississippi 39202		ADDRESS: 700 North State Street Suite 300A Jackson, Mississippi 39202	
PRINCIPAL OWNERS: Board of Directors		PHONE #'s: (601) 960-3636 FAX:	
TYPE OF BUSINESS: Alternative Energy		SIC CODE:	
PROJECT & FUNDING INFORMATION To provide operating budget for MTA. The purpose of MTA is to create economic development utilizing Mississippi's resources to produce energy through alternative energy technologies.			
IN STATE LOCATION & ADDRESS: Mississippi			NEW OR EXPANSION? New
LOAN /GRANT INFORMATION: LOAN REQUEST \$		GRANT REQUEST \$876,915	
INTEREST RATE	TERM:	TOTAL AMOUNT OF PROJECT: \$	
USE OF LWT ASSISTANCE:			
Working Capital: \$876,915	BUILDING: \$	EQUIPMENT: \$	
OTHER ASSISTANCE OR FINANCING PROGRAMS APPLIED FOR OR COMMITTED: Non-Profit Corporation			
EMPLOYMENT INFORMATION		PAYROLL INFORMATION	
CURRENT:	15	CURRENT:	
AFTER PROJECT:		ANTICIPATED PAYROLL:	
NET NEW JOBS:		NET INCREASE:	

EXHIBIT B

GRANT AGREEMENT

This Grant Agreement, dated as of April 12, 2002 (this "Agreement"), by and between the Mississippi Land, Water and Timber Resources Board (acting for and on behalf of the State of Mississippi (the "Board") and the entity set forth in Item 1 of Annex A (the "Grantee").

WITNESSETH:

WHEREAS, the Mississippi Land, Water and Timber Resources Act, being Sections 69-46-1 *et seq.*, Mississippi Code of 1972, as amended (the "Act"), was enacted for the purpose of assisting the agricultural industry in the State in the development, marketing and distribution of agricultural products by providing loans or grants for qualifying projects; and

WHEREAS, under the Act and guidelines adopted by the Board under the Act (the "Guidelines"), the Board is authorized to make loans or grants to approved entities for projects meeting the requirements of the Act and the Guidelines; and

WHEREAS, pursuant to the Act and the Guidelines, the Grantee has filed an application (the "Application") with the Board for a grant to be used to for the development of the Project, more particularly described in Item 2 of Annex A (the "Project"); and

WHEREAS, based upon the Application and other relevant factors, the Board has agreed to provide the Grantee with a grant under the Act in the amount set forth in Item 3 of Annex A (the "Grant") under the terms and conditions set forth in Item 4 of Annex A, in order to fund, in part, the costs of the Project; and

WHEREAS, the Board authorizes the Mississippi Development Authority and the Mississippi Department of Agriculture and Commerce to administer the disbursement of the grant; and

WHEREAS, the Project is authorized by the Act; and

WHEREAS, on November 1, 2001, the State issued its \$29,950,000 Taxable General Obligation Bonds (Mississippi Business Investment Act Issue, Series X, Mississippi Farm Reform Act Issue, Series P, Mississippi Small Municipalities and Limited Population Counties Issue, Mississippi Land, Water and Timber Resources Issue and Mississippi Telecommunication Conference and Training Center Act Issue, Series A) (the "Bonds") for the purpose, in part, of providing funding for projects under the Act, including the Grant; and

WHEREAS, the parties hereto agree that it is necessary to provide for and demonstrate compliance with the provisions of the Act and the Guidelines; and

WHEREAS, it is also necessary to assure that the public purposes of the Act are satisfied by insuring that the proceeds of the Grant are used for the development, marketing and/or distribution of agricultural products.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS, that the parties hereto intend to be legally bound hereby and in consideration of the mutual covenants hereinafter contained do hereby agree as follows:

Section 1. Grant. The Board hereby agrees to make to the Grantee and the Grantee hereby agrees to accept from the Board a Grant pursuant and subject to the terms of this Agreement and the Act as set forth in Item 4 of Annex A. The Grantee hereby agrees that it will apply the proceeds of the Grant only to the costs of the Project as more fully described in the Application. The Grant shall be disbursed by the Board to the Grantee in installments as provided in this Agreement pursuant to Item 4 of Annex A. The Grantee is authorized to use the proceeds of the Grant for the purposes specified in the Application, including, but not limited to the employment of personnel, the purchase of equipment and the purchase of materials, provided that any use of the proceeds of the Grant must be solely dedicated to the Project. The Board's obligation to make the Grant and to disburse the Grant in installments shall be subject to all of the terms and conditions of this Agreement and the Grantee satisfying all of its obligations under this Agreement and the Act.

Section 2. Disbursements. The obligation of the Board to make any disbursement of the Grant shall be subject to the following conditions, as well as any others herein set forth:

- a. The Grantee shall not be in default under this Agreement or the Act and shall be in compliance with the terms and provisions of the Guidelines of the Act;
- b. Development of the Project shall have progressed at a rate and in a manner reasonably satisfactory to the Board; and
- c. Receipt by the Board of a certificate of a representative of the Grantee in the form set forth in Section 3 hereof and the notice required of the Grantee set forth in Section 4 hereof for such disbursement in a form satisfactory to the Board. If the Grantee fails at any time to meet the conditions precedent to any disbursement of the Grant as specified in the preceding sentence, the obligation of the Board to make further disbursements in connection with the grant shall cease until such time and such condition precedent is met and satisfied. The parties hereto agree that disbursements by the Board to the Grantee of the Grant may be made from time to time or at one time over a one- (1) year period. The disbursements shall be made in accordance with Item 4 of Annex A. All rights of the Grantee to request disbursement of any portion of the Grant not disbursed prior to the anniversary date of the Grant Agreement, shall be forfeited to the State and may be applied by the State in any manner consistent with the terms of the resolution of the State directing the issuance and prescribing the form and details of the Bonds.

Section 3. Conditions. A condition precedent to all disbursements of the Grant shall be the delivery of a certificate of a representative of the Grantee to the effect that:

a. To the best of his knowledge, the representations and warranties of the Grantee contained in this Agreement are true and correct as of the date of the disbursements with the same effect as of made on the date of such disbursements;

b. This Agreement has been duly authorized, executed and delivered by the Grantee and constitutes a legal, valid and binding obligation of the Grantee enforceable in accordance with its terms, except as such enforceability may be limited by bankruptcy, reorganization, insolvency, moratorium or other laws affecting creditors' rights generally and except to the extent that the enforceability of the rights set forth herein may be limited by the availability of any particular remedies;

c. This Agreement has not been amended or supplemented or modified since the date of its execution and remains in full force and effect as of the date of the disbursement;

d. The authorization, execution and delivery of this Agreement by the Grantee, and compliance by the Grantee with the provisions hereof, will not conflict with or constitute a breach or default of the Grantee's duties hereunder or under any law, administrative regulation, court decree, resolution, charter, bylaw or other agreement to which the Grantee is subject or by which it is bound; and

e. There is no action, suit, proceeding or investigation at law or in equity before or by any court or governmental agency or body pending or, to the best of his knowledge, after reasonable investigation and due inquiry, threatened against the Grantee in any way contesting or affecting the validity of this Agreement or contesting the powers of the Grantee to enter into or perform its obligations under this Agreement.

Section 4. Requisitions. A condition precedent to all disbursements of the Grant shall be the presentation to the State Treasurer of a warrant issued by the Department of Finance and Administration of the State or its successor to such duties, which warrant shall be issued under proper requisition signed by the Grantee and both co-chairmen of the Board, all pursuant to the Guidelines and the resolution adopted by the State Bond Commission of the State directing the issuance of the Bonds. The requisition shall be in a form acceptable to the Board containing the certifications and representations required by the Guidelines. Warrants may only be issued for projects authorized by the Act. No requisition shall be executed by the co-chairmen until the conditions in Item 4 of the Annex have been satisfied.

Section 5. Audit. The Grantee hereby acknowledges and agrees that the Grant is subject to audit by the Department of Audit of the State at the request of the Board and hereby

agrees to make available to the Department of Audit any records it may request in connection with the use and expenditure of the Grant proceeds.

Section 6. Default. Any failure by the Grantee to comply with the terms and provisions of this Agreement shall constitute an "event of default" hereunder and, if uncured to the satisfaction of the Board within thirty (30) days of written notice thereof by the Board to the Grantee, may, in the discretion of the Board, result in termination of this Agreement pursuant to the terms and provisions of Section 9 hereof.

Section 7. Representations of the Board. The Board makes the following representations as the basis for the undertakings on the part of the Grantee herein contained:

- a. The Board is a public board of the State and is authorized pursuant to the provisions of the Act and the Guidelines to enter into the transactions contemplated by this Agreement.
- b. The Board has full power and authority to enter into the transactions c contemplated by this Agreement and to carry out its obligations hereunder.
- c. The Board has been duly authorized to execute and deliver this Agreement and by proper action has duly authorized the execution and delivery hereof and as to the Board; this Agreement is valid and legally binding and enforceable in accordance with its terms except to the extent that the enforceability thereof may be limited:

(1) By bankruptcy, reorganization, or other similar laws limiting the enforceability of creditors' rights generally; or

(2) By the availability of any discretionary equitable remedies.

- d. The Grant will further the purposes of this Act, to wit:

For the purpose of assisting Mississippi agriculture industry in the development, marketing and distribution of agricultural products.

Section 8. Representations of the Grantee. The Grantee makes the following representations as a basis for the Grant and the undertakings on the part of the Board, herein contained:

- a. The Grantee has all necessary power and authority to enter into and perform its duties under this Agreement and, when executed and delivered by the respective parties hereto, this Agreement will constitute a legal, valid and binding obligation of the Grantee enforceable in accordance with its terms except to the extent that the enforceability of the rights set forth herein may be limited by bankruptcy, reorganization, insolvency, moratorium or other laws affecting creditors' rights generally and except to the extent that the enforceability of the rights set forth herein may be limited by the validity of any particular remedy.

b. The execution and delivery of this Agreement and compliance with the provisions hereof will not conflict with, or constitute a breach of or default under, the Grantee's duties under any law, administrative regulation, court decree, resolution, charter, bylaws or other agreement to which the Grantee is subject or by which it is bound.

c. There is no consent, approval, authorization or other order of, filing with, or certification by, any regulatory authority having jurisdiction over the Grantee required for the execution, delivery or the consummation by the Grantee of any of the transactions contemplated by this Agreement and not already obtained.

d. There is no action, suit proceeding or investigation at law or in equity before or by any court or governmental agency or body pending or, to the best knowledge of the Grantee, after reasonable investigation and due inquiry, threatened against the Grantee in any way contesting or affecting the validity of this Agreement or contesting the powers of the Grantee to adopt, enter into or perform its obligations under this Agreement or materially and adversely affecting the properties or condition (financial or otherwise) or existence or powers of the Grantee.

e. The Grantee will not discriminate against any employee or any applicant for employment because of the race, religion, color, national origin, sex or age.

f. The Grantee shall comply with the terms and provisions of this Agreement, the Guidelines and the Act.

g. The Grantee certifies that all of the material information contained in the Application is true and correct as of the date of the Application and the date of this Agreement. The Grantee further acknowledges that the Board, in making the Grant, is relying upon the truthfulness and correctness of the material information contained in the Application.

h. The Grantee represents and warrants that it will further the purposes of the Act, to wit:

To assist the Mississippi agricultural industry in the development, marketing and distribution of agricultural products.

Section 9. Termination. The Board may terminate its obligation under this Agreement, if, during the administration of the Grant, any event occurs, which would constitute a default under this Agreement. In any event, the Board may require the Grantee to repay any unused portion of the Grant. The Board may use such repayment for other projects authorized under the Act.

Section 10. Notice Addresses. All notices given pursuant to this Agreement shall be in writing signed by the party giving the notice and shall be given by:

- a. Certified mail, postage prepaid;
- b. Prepaid overnight delivery; or
- c. Hand delivery.

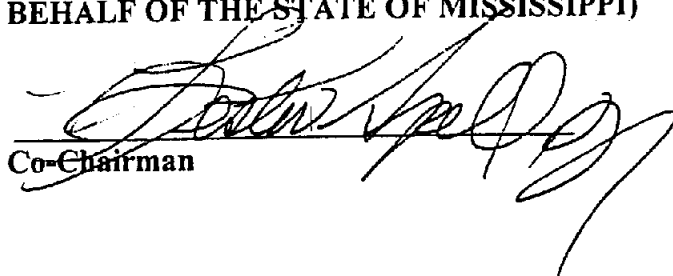
For the purposes of this Agreement, notices shall be sent to the parties at the addresses set forth on Item 5 of Annex A hereto or to such other addresses that the parties may designate in writing.

Section 11. Miscellaneous.

- a. This Agreement has been made by the Board and the Grantee, and no person other than the foregoing and their successors or assigns shall acquire or have any right under or by virtue of this Agreement.
- b. This Agreement shall become effective upon the execution and the acceptance hereof by the parties hereto and shall be valid and enforceable from and after the time of such execution and acceptance.
- c. If any paragraph or part of a paragraph of this Agreement shall be declared null and void or unenforceable against any of the parties hereto by any court of competent jurisdiction, such declaration shall not affect the validity or enforceability of any other section or part of a paragraph of this Agreement.
- d. In the event any agreement contained in this Agreement shall be breached and such breach shall thereafter be waived, such waiver shall be limited to the particular breach so waived and shall not be deemed to waive any other breach hereunder.
- e. This Agreement shall inure to the benefit of the Board and the Grantee and shall be binding upon the Board and the Grantee and their respective successors and assigns.
- f. This Agreement shall be governed as to its validity, construction and performance by the laws of the State of Mississippi.
- g. This Agreement may be executed in any number of counterparts, each of which, when so executed and delivered, shall be an original; but such counterparts shall together constitute but one and the same agreement.
- h. No amendment, change, modification, alteration or termination of this Agreement shall be made other than pursuant to a written instrument signed by the parties to this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the day and year first above written.

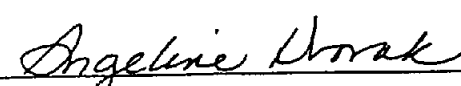
MISSISSIPPI LAND, WATER AND TIMBER
RESOURCES BOARD (ACTING FOR AND ON
BEHALF OF THE STATE OF MISSISSIPPI)


Co-Chairman


ATTEST:


Co-Chairman

MISSISSIPPI TECHNOLOGY ALLIANCE

By: 
Title: President/CEO

ATTEST:

By: 
Title: VP, Business Venture Development

Annex A to Grant Agreement

Item 1 - Mississippi Technology Alliance

Item 2 - Description of Project:

The project will consist of the development of agriculture/resource-based fuel sources for energy production. Grant funds shall be used for, but not limited to, the employment of personnel, the purchase of equipment and the purchase of materials.

Item 3 - Grant Amount:

\$849,750

Item 4 - Grant Terms and Conditions:

A. Funds will be allocated and disbursed to the Grantee based on the Grantee's submission of a budget every six- (6) months.

B. The Grantee agrees to provide the Board at the addresses listed in Item 5 a semi-annual Report in connection with the Grant. The Semi-Annual Report shall provide a detailed description of the Project and the progress made on each component of the Project during each six month period covered by the Semi-Annual Report. The initial Semi-Annual Report shall be provided to the Board no later than the six-month anniversary date of the Grant Agreement. Each Semi-Annual report must be presented both orally and in writing and shall be provided to the Board twice per year. Upon approval by the Board, the parties may waive the required appearance before the Board and arrange for the submission of a written report.

Item 5 - Address Notice:

If to the Board: Lester Spell, Jr., D.V.M., Co-Chairman
121 North Jefferson Street
Jackson, Mississippi 39201

Bob J. Rohrlack, Jr., C.E.D., Co-Chairman
501 North West Street
Post Office Box 849
Jackson, Mississippi 39205

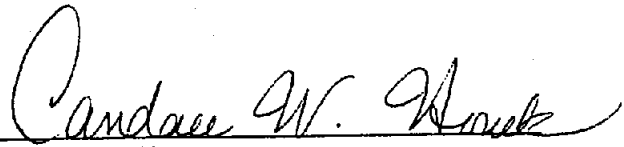
If to the Grantee: Mississippi Technology Alliance
700 North State Street, Suite 300-A
Jackson, Mississippi 39202
Contact Person: Dr. Angie Dvorak

ACKNOWLEDGMENT OF THE BOARD

STATE OF MISSISSIPPI)
) ss:
COUNTY OF HINDS)

Personally appeared before me, the undersigned authority in and for the said county and state, on this the 11th day of April, 2002, within my jurisdiction, the within named Lester Spell, Jr., D.V.M., who acknowledged he is a co-chairman of the Mississippi Land, Water and Timber Resources Board and that for and on behalf of said Board and as its act and deed, he executed the above and foregoing instrument, after first having been duly authorized by said Board so to do.

MISSISSIPPI STATEWIDE NOTARY PUBLIC
MY COMMISSION EXPIRES JULY 16, 2005
BONDED THRU STEGALL NOTARY SERVICE


Notary Public

My Commission Expires:

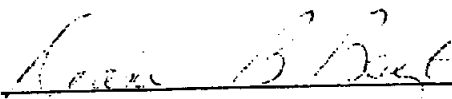
[S E A L]

ACKNOWLEDGMENT OF MISSISSIPPI DEVELOPMENT AUTHORITY

STATE OF MISSISSIPPI)
) ss:
COUNTY OF HINDS)

Personally appeared before me, the undersigned authority in and for the said county and state, on this the twelfth day of April, 2002, within my jurisdiction, the within named Bob Rohrlack who acknowledged he is a co-chairman of the Mississippi Land, Water and Timber Resources Board and that for and on behalf of said Board and as its act and deed, he executed the above and foregoing instrument, after first having been duly authorized by said Board so to do.

GIVEN UNDER MY HAND AND OFFICIAL SEAL OF OFFICE, this the 12th day of April 2002.



Notary Public

My Commission Expires:

MISSISSIPPI STATEWIDE NOTARY PUBLIC
MY COMMISSION EXPIRES JAN. 23, 2005

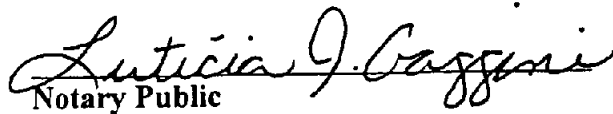
~~BONDED THRU STEGALL NOTARY SERVICE~~

[S E A L]

ACKNOWLEDGMENT OF THE GRANTEE

STATE OF MISSISSIPPI)
) ss:
COUNTY OF HINDS)

Personally appeared before me, the undersigned authority in and for the said county and state, on this the 12th day of April, 2002, within my jurisdiction, the within named Angeline Dvorak, who acknowledged he/she is named President/CEO of Mississippi Technology Alliance, and that for and on behalf of said Mississippi Technology Alliance and as its act and deed, he/she executed the above and foregoing instrument, after first having been duly authorized by said Mississippi Technology Alliance so to do.


Notary Public

My Commission Expires:

[S E A L]

GRANT AGREEMENT

THIS GRANT AGREEMENT, dated as of December 5, 2002 (this "Agreement"), by and between the Mississippi Land, Water and Timber Resources Board (acting for and on behalf of the State of Mississippi (the "Board")) and the entity set forth in Item 1 of Annex A (the "Grantee").

WITNESSETH:

WHEREAS, the Mississippi Land, Water and Timber Resources Act, being *Miss. Code Ann. §§69-46-1 et seq.*, as amended (the "Act"), was enacted for the purpose of assisting the agricultural industry in the State of Mississippi (the "State") in the development, marketing and distribution of agricultural products by providing loans and/or grants for projects qualifying for assistance under the Act; and

WHEREAS, pursuant to the Act and the Regulations adopted by the Board under the Act (the "Regulations"), the Board is authorized to make loans and/or grants to approved public and private entities for projects meeting the requirements of the Act and the Regulations; and

WHEREAS, pursuant to the Act and the Regulations, the Grantee has filed an application (the "Application") with the Board for a grant to be used in connection with a project, more particularly described in Item 2 of Annex A (the "Project"); and

WHEREAS, the Project will further the purposes of the Act by assisting the State's agricultural industry in the development, marketing and distribution of agricultural products; and

WHEREAS, the Project will be a benefit to the residents of the State by increasing both employment and tax revenues in the State; and

WHEREAS, based upon the Application and other relevant factors, the Board has agreed to provide the Grantee with a grant under the Act in the amount set forth in Item 3 of Annex A (the "Grant") under the terms and conditions of this Agreement and as set forth in Item 4 of Annex A, in order to fund, in part, the costs of the Project; and

WHEREAS, the Grant is authorized by the Act; and

WHEREAS, the Board, in accordance with the Act, desires that the Mississippi Development Authority ("MDA") administer the disbursement of the proceeds of the Grant in accordance with this Agreement and the Regulations; and

WHEREAS, the Board has received the Grantee's Application; and

WHEREAS, the parties hereto agree that it is necessary to provide for and demonstrate compliance with the provisions of the Act and the Regulations in connection with the Grant; and

WHEREAS, it is also necessary to assure that the public purposes of the Act are satisfied by insuring that the proceeds of the Grant are used for the development, marketing and distribution of agricultural products.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS, that the parties hereto intend to be legally bound hereby and in consideration of the mutual covenants hereinafter contained do hereby agree as follows:

Section 1. Grant. The Board hereby agrees to make to the Grantee and the Grantee hereby agrees to accept from the Board the Grant pursuant and subject to the terms of this Agreement and the Act and the Regulations as set forth in Item 4 of Annex A attached hereto. The Grantee hereby agrees that it will apply the proceeds of the Grant only to the costs of the Project as more fully described in Item 2 of Annex A. The Grant shall be disbursed by the Board in installments as provided pursuant to Item 4 of Annex A and Sections 2 and 4 herein. The Grantee is authorized to use the proceeds of the Grant for the purposes specified in Item 2 of Annex A. Any use of the proceeds of the Grant must be solely dedicated to the Project.

The Board's obligation to make and to disburse the Grant shall be subject to the following:

- (a) The issuance of bonds by the Mississippi State Bond Commission for projects as specified in Sections 1 through 16 of Laws, 2002, ch. 542 and *Miss. Code Ann. §§69-46-1 et seq.*;
- (b) The completion of all terms and conditions of this Agreement; and
- (c) The satisfaction by Grantee of its obligations under this Agreement, the Act and the Regulations.

The Board requests MDA to administer the disbursement of the proceeds of the grant in accordance with the Regulations and its procedures and Regulations.

Section 2. Disbursements. The obligation of the Board to make any disbursement of the Grant shall be subject to the following conditions, as well as any others set forth herein and in the Guidelines:

- (a) The Grantee shall not be in default under this Agreement or the Act and shall be in compliance with the terms and provisions of the Guidelines and the Act.
- (b) Development of the Project shall have progressed at a rate and in a manner reasonably satisfactory to the Board.
- (c) Receipt by the Board and MDA of a certificate of an authorized representative of the Grantee as set forth in Section 3 of this Agreement, a requisition as described in Section 4 of this Agreement and the notice required of Grantee as set forth in Section 4 of this Agreement for each such disbursement. If the Grantee fails at any time to meet the conditions precedent to any disbursement of the Grant as specified in the preceding sentence, the obligation of the Board to make further disbursements in connection with the Grant shall cease until such time as such conditions precedent are met and satisfied. The disbursements shall be made in accordance with Item 4 of Annex A. All rights of the Grantee to request disbursement of any portion of the Grant not disbursed prior to the one-year anniversary date of this Agreement, shall terminate on said anniversary date and may be applied by the State in any manner consistent with the terms of the resolution of the State Bond Commission directing the issuance and prescribing the form and details of the Bonds and the Act.

- (d) The proceeds of the Grant will be disbursed for services rendered by a contractor and/or vendor or reimbursed to the Grantee in accordance with the Guidelines, the procedures and guidelines of MDA and this Agreement.

Section 3. Certificate of Grantee. A condition precedent to all disbursements of the proceeds of the Grant shall be the delivery to the Board and MDA of a certificate of an authorized representative of the Grantee stating:

- (a) To the best of the Grantee's knowledge, the representations and warranties of the Grantee contained in this Agreement are true and correct as of the date of the request for such disbursement with the same effect as if made on the date of such request for disbursement.
- (b) This Agreement has been duly authorized, executed and delivered by the Grantee and constitutes a legal, valid and binding obligation of the Grantee enforceable in accordance with its terms.
- (c) This Agreement has not been amended or supplemented or modified since the date of its execution and remains in full force and effect as of the date of the request for disbursement.
- (d) The authorization, execution and delivery of this Agreement by the Grantee, and compliance by the Grantee with the provisions of this Agreement, will not conflict with or constitute a breach or default of the Grantee's duties under this Agreement or under any law, administrative regulation, court decree, resolution, charter, bylaw or other agreement to which the Grantee is subject or by which it is bound.
- (e) There is no action, suit, proceeding or investigation at law or in equity before or by any court or governmental agency or body pending or, to the best of its knowledge, after reasonable investigation and due inquiry, threatened against the Grantee in any way contesting or affecting the validity of this Agreement or contesting the powers of the Grantee to enter into or perform its obligations under this Agreement.

Section 4. Requisitions.

- (a) Each requisition for disbursement of the proceeds of the Grant shall be in the form attached hereto as Annex B and incorporated herein by this reference thereto. Requisitions shall be submitted no more than once each calendar month and no later than the 25th of each month. No requisition shall be approved by the Screening Committee of the Board and MDA until all requirements of this Agreement, the Guidelines and the conditions of Item 4 of Annex A hereto have been satisfied.
- (b) The Grantee shall provide the Board and MDA with timely and reasonable written notice of the amount of the disbursement of the proceeds of the Grant requested by the Grantee. Such notice, which may be incorporated in each requisition, shall contain all information necessary to enable the Board and MDA to prepare a request for a warrant as required by the Act including, without limitation, the name and title of the requesting authorized

representatives of the Grantee, the name of the contractor and/or vendor to be paid or the party to be reimbursed for its previous payment of the product delivered or work performed and a detailed description of the work performed thereof. In addition, such notice shall certify that the amount requested is the just amount due at the current time, is currently unpaid, is for a product or service which has heretofore been delivered or performed and that all requirements in connection with the acquisition of such product or service have been complied with by the Grantee.

- (c) The Screening Committee of the Board and MDA shall indicate in writing their approval of each requisition which approval shall be in the sole discretion of the Screening Committee of the Board and MDA.
- (d) Payment of each requisition shall be made within fourteen (14) business days of approval by the Screening Committee of the Board of the requisition.
- (e) Each requisition shall be executed by an authorized representative of the Grantee.

Section 5. Audit and Reports.

- (a) The Grantee hereby acknowledges and agrees that the Grant is subject to audit by the Department of Audit of the State (the "Department") at the request of the Board or MDA and hereby agree to make available to the Department any records it may request in connection with the use and expenditure of the proceeds of the Grant. The Grantee shall retain records for a period of three (3) years from the date of the last disbursement of the Grant or until such time as directed by the Department, whichever is longer.
- (b) The Grantee agrees to abide to the reporting requirements set forth in Item 4(B) of Annex A attached hereto.

Section 6. Representations of the Board. The Board makes the following representations as the basis for the undertakings on the part of the Grantee herein contained:

- (a) The Board is a public body of the State and is authorized pursuant to the provisions of the Act and the Guidelines to enter into the transactions contemplated by this Agreement.
- (b) The Board has full power and authority to enter into the transactions contemplated by this Agreement and to carry out its obligations hereunder.
- (c) The Board has been duly authorized to execute and deliver this Agreement and by proper action has duly authorized the execution and delivery hereof and as to the Board, this Agreement is valid and legally binding and enforceable in accordance with its terms.
- (d) The Grant will further the purposes of the Act by assisting the State's agricultural industry in the development, marketing and distribution of agricultural products.

Section 7. Representations of the Grantee. The Grantee makes the following representations as a basis for the Grant and the undertakings on the part of the Board herein contained:

- (a) The Grantee is a Mississippi nonprofit corporation and is in good standing with the Mississippi Secretary of State's Office.
- (b) The Grantee has all necessary power and authority to enter into and perform its duties under this Agreement and, when executed and delivered by the respective parties hereto, this Agreement will constitute a legal, valid and binding obligation of the Grantee enforceable in accordance with its terms.
- (c) The execution and delivery of this Agreement and compliance with the provisions hereof will not conflict with, or constitute a breach of or default under, the Grantee's duties under any law, administrative regulation, court decree, resolution, charter, bylaws or other agreement to which the Grantee is subject or by which it is bound.
- (d) There is no consent, approval, authorization or other order of, filing with, or certification by, any regulatory authority having jurisdiction over the Grantee required for the execution, delivery or the consummation by the Grantee of any of the transactions contemplated by this Agreement and not already obtained.
- (e) There is no action, suit proceeding or investigation at law or in equity before or by any court or governmental agency or body pending or, to the best knowledge of the Grantee, after reasonable investigation and due inquiry, threatened against the Grantee in any way contesting or affecting the validity of this Agreement or contesting the powers of the Grantee to adopt, enter into or perform its obligations under this Agreement or materially and adversely affecting the properties or condition (financial or otherwise) or existence or powers of the Grantee.
- (f) The Grantee will not discriminate against any employee or any applicant for employment due to race, religion, color, disability, national origin, sex or age.
- (g) The Grantee shall comply with all the terms, conditions and provisions of this Agreement, the Guidelines and the Act.
- (h) The Grantee certifies that all of the information contained in the Application is true and correct as of the date of the Application and the date of this Agreement. The Grantee further acknowledges that the Board, in making the Grant, is relying upon the truthfulness and correctness of the information contained in the Application.
- (i) The Grantee certifies that the Project will be completed in a timely manner and to the satisfaction of the Board.
- (j) The proceeds of the Grant will be used in accordance with the requirements of this Agreement and solely for the Project as set forth in Item 2 of Annex A.
- (k) The Grantee specifically acknowledges and agrees to the provisions of Sections 8, 9, and 10 of this Agreement.
- (l) The Grantee represents and warrants that the Project will further the purposes of the Act by assisting the State's agricultural industry in the development, marketing and distribution of agricultural products.

Section 8. Default. Any failure by the Grantee to comply with the terms and provisions of this Agreement shall constitute an "event of default" hereunder and, if such "event of default" is not cured to the satisfaction of the Board within ten (10) days of written notice thereof by the Board to the Grantee, the Board may, in its sole discretion, pursue the remedies provided in Section 10 of this Agreement, including but not limited to, the repayment of the proceeds of the Grant disbursed to the Grantee.

Section 9. Termination. The Board may terminate its obligations under this Agreement and in connection with the Grant, if, any event occurs, which would constitute an "event of default" under this Agreement. In the event of termination, the Board may pursue the remedies described in Section 10 of this Agreement.

Section 10. Remedies. If an "event of default" occurs under this Agreement or this Agreement is terminated pursuant to Section 9 of this Agreement, the Board may, in its sole discretion, require the Grantee to repay the State all proceeds of the Grant previously disbursed and/or pursue any other remedy available at law or in equity. The Board may use such repayment for other purposes authorized under the Act and the Guidelines.

Section 11. Notice Addresses. All notices given pursuant to this Agreement shall be in writing signed by the party giving the notice and shall be given by certified mail, postage prepaid, postage prepaid overnight delivery, or hand delivery.

For the purposes of this Agreement, notices shall be sent to the parties at the addresses set forth on Item 5 of Annex A hereto or to such other addresses that the parties may designate in writing.

Section 12. Miscellaneous.

(a) This Agreement has been made by the Board and the Grantee, and no other person other than the foregoing and their successors or assigns, MDA and the State shall acquire or have any right under or by virtue of this Agreement.

(b) This Agreement shall become effective upon the execution by the parties hereto and shall be valid and enforceable from and after the time of last execution by the parties hereto.

(c) If any paragraph or part of a paragraph of this Agreement shall be declared null and void or unenforceable against any of the parties hereto by any court of competent jurisdiction, such declaration shall not affect the validity or enforceability of any other section or part of a paragraph of this Agreement.

(d) In the event any agreement contained in this Agreement shall be breached and such breach shall thereafter be waived, such waiver shall be limited to the particular breach so waived and shall not be deemed to waive any other breach hereunder.

(e) This Agreement shall inure to the benefit of the Board and the Grantee and shall be binding upon the Board and the Grantee and their respective successors and assigns.

(f) This Agreement shall be governed as to its validity, construction and performance by the laws of the State.

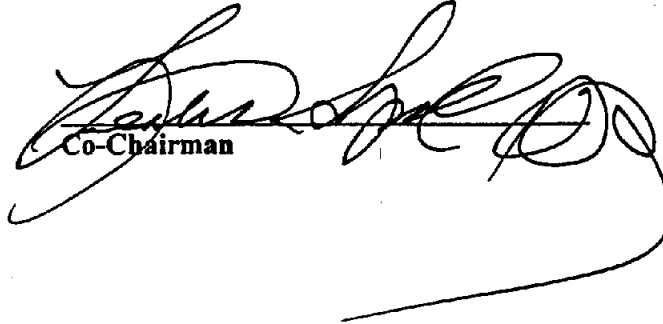
(g) This Agreement may be executed in any number of counterparts, each of which, when so executed and delivered, shall be an original; but such counterparts shall together constitute but one and the same agreement.

(h) No amendment, change, modification or alteration of this Agreement shall be made other than pursuant to a written instrument signed by the parties to this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed.

MISSISSIPPI LAND, WATER AND TIMBER
RESOURCES BOARD (ACTING FOR AND ON BEHALF
OF THE STATE OF MISSISSIPPI)

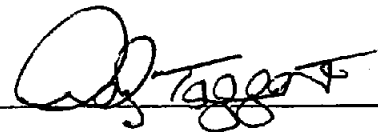
Date: _____


Co-Chairman

ATTEST:


Co-Chairman

MISSISSIPPI TECHNOLOGY ALLIANCE, GRANTEE

By: 

Date: 1-27-03

Title: Interim President

ATTEST:

By: 

Title: VP, Treasurer

ANNEX A TO GRANT AGREEMENT

Item 1 - Grantee

Mississippi Technology Alliance

Item 2 - Description of Project:

The project will include the purchase, installation and testing of device development equipment to proliferate technologies that can save money and reduce dependence on traditional energy sources. Specifically, the grant proceeds shall be utilized to purchase and install the following:

Methane Gas Capture System on Swine Farm	\$114,200
Methane Gas Capture System on Dairy Farm	\$367,000
MSU/Alcorn System Optimization Project	\$ 32,000
Combined Technology Sites (3)	\$ 84,222
Hybrid Solar Lighting	<u>\$100,000</u>
	\$697,422

These devices will be installed on farm and non-farm host sites throughout the state, including Montpelier, MS; Forest, MS; Booneville, MS; Madison County, MS; and Gulfport, MS.

Grant funds shall be used only for costs associated with the above-referenced equipment, materials and supplies, and other costs as contained in the Grantee's revised application.

Item 3 - Grant Amount:

\$697,422

Item 4 - Grant Terms and Conditions:

- A. Funds will be disbursed for services rendered to the contractor &/or vendor or to the Grantee for reimbursement for previous payment in accord with Section 4 of this Agreement. Grant funds must be disbursed by December 5, 2003.
- B. The Grantee agrees to provide the Board and MDA at the addresses listed in Item 5 of this Annex with a Semi-Annual Report (the "Report") in connection with the Grant. The Report shall provide a summary description of the Project and the progress made on each component of the Project during the six-month period covered by the Report. The initial Report shall be provided to the Board and MDA no later than the six-month anniversary date of this Agreement. Each Report must be presented both orally and in writing. Upon agreement by the Board, the parties may waive the required oral presentation before the Board and arrange for the submission of a written Report. A final report shall be provided by the Grantee within sixty (60) days of the date of initial operation of the Project.
- C. The grant is subject to the following condition(s):
 - (1) Grantee agrees to provide the Board with certified copies of the Articles of Incorporation and Bylaws of Grantee and a Certificate of Existence from the Mississippi Secretary of State's Office.

- (2) Grantee agrees that any compensation generated as a result of the Hybrid Solar Lighting component of the Project will be returned to the State through the Board by Grantee at a level not to exceed the original grant allocation (\$100,000) or the grant amount actually utilized for this component of the Project, whichever is of greater value.

Item 5 - Address Notice:

If to the Board:

Robert J. Rohrlack, Jr., C.E.D., Co-Chairman
Mississippi Development Authority
501 North West Street
Post Office Box 849
Jackson, Mississippi 39205

Lester Spell, Jr., D.V.M., Co-Chairman
Mississippi Department of Agriculture & Commerce
121 North Jefferson Street
Jackson, Mississippi 39201

If to the Grantee:

Tony Jeff, Project Manager
Mississippi Technology Alliance
700 North State Street
Suite 300A
Jackson, Mississippi 39202

ANNEX B TO GRANT AGREEMENT
(FORM OF REQUISITION)

Funding Agreement
INSTALLATION AGREEMENT

THIS PAYMENT AGREEMENT (this "Agreement") is made and entered into as of the 6th day of November, 2003, by and between MISSISSIPPI TECHNOLOGY ALLIANCE, a Mississippi non-profit corporation ("MTA"), and Ma N Nurseries Inc., a Mississippi [corporation/limited liability company/sole proprietorship] ("Client").

WITNESSETH:

WHEREAS, MTA is a non-profit corporation and part of its mission is to help Mississippi businesses find viable alternative energy sources;

WHEREAS, Client has entered into an agreement for Contractor(s) (Equipment Agreement dated November 6, 2003) to install a methane gas capture system and to provide related services (collectively, the "Project") at Client's location, 2250r Staines Rd. 39724, as part of an overall energy strategy designed to promote cost effective waste treatment and maximum energy recovery for its operations; and

WHEREAS, in pursuit of its non-profit mission and goals, MTA desires to fund the payment obligations on Client's behalf in accordance with terms and conditions herein.

NOW, THEREFORE, in consideration of the premises, and of the mutual covenants and agreements set forth herein, it is hereby agreed as follows:

1. Funding of Payments. For consideration of the Project, MTA hereby agrees to fund and pay on Client's behalf the payment obligations as set forth in Exhibit A (the "Payments").

(a) Subject to Client and Contractor being in full compliance with its obligations, covenants and warranties under this Agreement, MTA shall fund the Payments in a timely manner by (i) delivering the Payments directly to Contractor, or (ii) delivering the Payments directly to Client, condition upon MTA's timely receipt of an invoice from Client.

(b) At the time any Payments are due hereunder and before MTA funds such Payments, Contractor and Client will certify in writing to MTA that each such party has fulfilled and met any and all performances and obligations that are required to be fulfilled as a condition to such Payment. MTA will not be obligated to make the final Payment due hereunder until such time that Client and Contractor has delivered to MTA a joint certification, in the form of Exhibit B attached hereto upon completion of the installation of the Equipment.

(c) Client hereby agrees that any such funding for the Payments delivered directly to Client by MTA shall not be used for any purpose other than the satisfaction of the Payments and that any refunds or warranty claims, if any, that Client may receive from shall be immediately delivered to MTA.

(d) MTA shall not be liable or obligated to Client or Contractor for any taxes, charges, penalties, late fees or any additional costs or expenses arising out of or associated with any of the Payments, except as such may arise out of MTA's gross negligence or willful conduct.

2. Representations and Warranties by Client. Client hereby represents and warrants to MTA that it has voluntarily agreed to have the Contractor(s) install the equipment and that it has not relied on MTA, its employees, representatives or agents, in any manner with respect to the foregoing.

3. No Assumption of Liabilities; Exculpation. Excluding the Payments that are subject to the terms and conditions hereof, the parties hereby agree that by entering into this Agreement MTA shall not assume any liabilities or obligations of the Client of any kind or character, whether known or unknown, fixed or contingent, accruing as a result of the Project, the installation of the Equipment, the services provided hereby or otherwise, when each such portion of the Payments are due and payable.

4. Limitation on Liabilities. MTA MAKES NO WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, WHETHER IMPLIED OR EXPRESSED, AS TO THE EQUIPMENT'S CONDITION, DESIGN, QUALITY, CAPACITY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR WITH RESPECT TO THE SUFFICIENCY OR ADEQUACY OF THE RELATED SERVICES TO BE PROVIDED BY CONTRACTOR(S) AND CLIENT HEREBY ACKNOWLEDGES AND AGREES THAT IT IS NOT RELYING ON MTA TO SUCH EFFECT. CLIENT HEREBY ACKNOWLEDGES AND AGREES THAT ANY CLAIM FOR ANY WARRANTY FOR THE EQUIPMENT OR THE SERVICES SHALL BE AS PROVIDED BY CONTRACTOR(S) AND/OR THE MANUFACTURER OF THE EQUIPMENT. FURTHER, MTA WILL HAVE NO LIABILITY TO CLIENT OR CONTRACTOR(S), THEIR RESPECTIVE EMPLOYEES, REPRESENTATIVES, CUSTOMERS OR ANY THIRD PARTY FOR ANY LOSS OR DAMAGES OF ANY KIND OR NATURE DIRECTLY OR INDIRECTLY ARISING OUT OF THE PROJECT OR THE INSTALLATION, USE, POSSESSION, OPERATION, REPAIR, OR MAINTENANCE OF THE EQUIPMENT (INCLUDING ANY CLAIM BASED ON NEGLIGENCE, STRICT OR ABSOLUTE LIABILITY IN TORT).

5. Indemnification. Client each shall indemnify, defend and hold harmless MTA, and its employees, agents, or contractors from all losses, expenses, liabilities, demands, claims, and judgments, including all court costs and reasonable attorney fees, arising out of injury (including death) to any other person or damage to any property to the extent resulting from any act or omission of the Client as the case may be. Client covenants not to sue MTA or its employees, agents, or contractors under any circumstances or upon any grounds with respect to the Project being funded under the terms of this Agreement, or any part thereof, or any injury, damage or loss, whether physical or economic, to persons or property resulting there from.

6. Contents of Agreement; Parties in Interest; etc. This Agreement sets forth the entire understanding of the parties hereto with respect to the transactions contemplated hereby. It shall not be amended or modified except by written instrument duly executed by each of the parties hereto. Any and all previous agreements and understandings between or among the parties regarding the subject matter hereof, whether written or oral, are superseded by this Agreement.

7. Independent Contractors. The parties hereto agree and acknowledge that each is functioning, and will continue throughout the term of this Agreement to function, as an independent contractor and not an employee, servant, agent, partner or joint venturer of any other party hereto. Neither party, nor its agents, shall commit any other party to any contracts or modifications of contracts without all the other party's prior written permission.

8. Further Cooperation. From time to time hereafter and upon MTA's request, Client hereby agrees to execute, acknowledge and deliver to MTA such other instruments, documents or certifications and to take such other actions as MTA may reasonably require in order to vest more effectively the terms of this Agreement.

9. Assignment and Binding Effect. All of the terms and provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective, heirs, personal representatives, successors and assigns; provided, however, the Client may assign this Agreement, in whole or in part, to any other person or entity without the prior written consent of MTA, which shall not be unreasonably withheld.

10. Governing Law. This Agreement shall be construed and interpreted in accordance with the laws of the State of Mississippi without regard to conflicts of laws provisions thereof.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives as of the date first above written.

MISSISSIPPI TECHNOLOGY ALLIANCE

By: [Signature]

Its: Interim President/CEO

[Med N Nurseries Inc.]

By: [Signature]

Its: President

EXHIBIT A

Payment Obligations

The total consideration due to Agriclean under the Equipment Agreement shall equal in the aggregate \$81,890, payable as follows.

\$10,000 Upon execution of the "Equipment Agreement"

\$10,000 in progress payments based on from Agriclean payable the first day of every month in increments of \$5,000

\$61,890 in progress payments based on actual invoices from suppliers and subcontractors

If the cost for dirt work is less than estimated then 50% of the difference should be returned to MTA.

All payments shall be paid within 30 days of receiving an invoice.

EXHIBIT B

To: Mississippi Technology Alliance

This is to certify that on this ____ day of _____, 2003, _____ has completed the installation of the equipment and provided all services in accordance with the Installation Agreement dated _____, 2003 and that each party represents and warrants that it has been successfully installed and is in good operating condition. _____ unconditionally and irrevocably accepts the Equipment as installed.

By: _____

Name: _____

Title: _____

By: _____

Name: _____

Title: _____

FUNDING AGREEMENT

THIS FUNDING AGREEMENT (this "Agreement") is made and entered into as of the ____ day of _____, 2003, by and between **MISSISSIPPI TECHNOLOGY ALLIANCE**, a Mississippi non-profit corporation ("MTA"), and **MILLS DAIRY**, a Mississippi [corporation/limited liability company/sole proprietorship] having its principal offices located at 797 Hillbrow / Ludlow Rd MILLS ("MILLS").
Forest Ms, 39074

WITNESSETH:

WHEREAS, MTA is a non-profit corporation and part of its mission is to help Mississippi businesses find viable alternative energy sources;

WHEREAS, MTA has facilitated an arrangement for AgriClean, LLC, a Tennessee limited liability company ("AgriClean") pursuant to that certain Equipment Installation Agreement dated _____, 2003, between AgriClean and MILLS (the "Equipment Agreement"), to install anaerobic digestion and generating assets at Mills location as part of an overall energy strategy designed to promote cost effective waste treatment and maximum energy recovery for its operations;

WHEREAS, as consideration for such installation and services under the Equipment Agreement, MILLS is obligated to satisfy a variety of payment obligations ("Payments"), as more fully described in Exhibit "A", attached hereto and incorporated herein; and

WHEREAS, in pursuit of its non-profit mission and goals, MTA desires to fund all of the Payments on MILLS' behalf in accordance with terms and conditions herein.

NOW, THEREFORE, in consideration of the premises, and of the mutual covenants and agreements set forth herein, it is hereby agreed as follows:

1. Funding of Payments. MTA hereby agrees to fund and pay on MILLS' behalf the Payments in accordance with Section 4 below subject to MILLS being in full compliance with its obligations, covenants and warranties under the Equipment Agreement.

2. No Assumption of Liabilities. Excluding the Payments assumed herein, the parties hereby agree that by entering into this Agreement MTA shall not assume any liabilities or obligations of the MILLS of any kind or character, whether known or unknown, fixed or contingent, accruing as a result of the Equipment Agreement or otherwise, when each such portion of the Payments are due and payable:

3. Limitation on Liabilities. MTA MAKES NO WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, WHETHER IMPLIED OR EXPRESSED, AS TO THE EQUIPMENT'S CONDITION, DESIGN, QUALITY,

CAPACITY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR WITH RESPECT TO THE SUFFICEINCEY OR ADEQUACY OF THE RELATED SERVICES TO BE PROVIDED BY AGRICLEAN AND MILLS HEREBY ACKNOWLEDGES AND AGREES THAT IT IS NOT RELYING ON MTA TO SUCH EFFECT. MILLS HEREBY ACKNOWLEDGES AND AGREES THAT ANY CLAIM FOR ANY WARRANTY FOR THE EQUIPMENT OR THE SERVICES SHALL BE AS PROVIDED BY AGRICLEAN UNDER THE EQUIPMENT AGREEMENT. FURTHER, MTA WILL HAVE NO LIABILITY TO MILLS, ITS EMPLOYEES, REPRESENTATIVES, CUSTOMERS OR ANY THIRD PARTY FOR ANY LOSS OR DAMAGES OF ANY KIND OR NATURE DIRECTLY OR INDIRECTLY ARISING OUT OF THE EQUIPMENT AGREEMENT OR THE INSTALLATION, USE, POSSESSION, OPERATION, REPAIR, OR MAINTENANCE OF THE EQUIPMENT (INCLUDING ANY CLAIM BASED ON NEGLIGENCE, STRICT OR ABSOLUTE LIABILITY IN TORT).

4. Payment.

(a) MTA shall fund the Payments in a timely manner in accordance with Exhibit "A" by (a) delivering the Payments directly to AgriClean, or (b) delivering the Payments directly to MILLS, condition upon MTA's timely receipt of an invoice from MILLS or AgriClean.

(b) MILLS hereby agrees that any such funding for the Payments delivered directly to MILLS by MTA shall not be used for any purpose other than the satisfaction of the Payments and that any refunds or warranty claims, if any, that MILLS may receive from shall be immediately delivered to MTA.

(c) MTA shall not be liable or obligated to MILLS or AgriClean for any taxes, charges, penalties, late fees or any additional costs or expenses arising out of or associated with any of the Payments, except as such may arise out of MTA's gross negligence or willful conduct.

5. Contents of Agreement; Parties in Interest; etc. This Agreement sets forth the entire understanding of the parties hereto with respect to the transactions contemplated hereby. It shall not be amended or modified except by written instrument duly executed by each of the parties hereto. Any and all previous agreements and understandings between or among the parties regarding the subject matter hereof, whether written or oral, are superseded by this Agreement.

6. Further Cooperation. From time to time hereafter and upon MTA's request, MILLS hereby agrees to execute, acknowledge and deliver to MTA such other instruments, documents or certifications and to take such other actions as MTA may reasonably require in order to vest more effectively the terms of this Agreement.

7. Assignment and Binding Effect. All of the terms and provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective, heirs, personal representatives, successors and assigns; provided, however,

MILLS may not assign this Agreement, in whole or in part, to any other person or entity without the prior written consent of MTA, which shall not be unreasonably withheld.

8. Governing Law. This Agreement shall be construed and interpreted in accordance with the laws of the State of Mississippi without regard to conflicts of laws provisions thereof.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives as of the date first above written.

MISSISSIPPI TECHNOLOGY ALLIANCE

By: 

Its: Interim President (CD)

MILLS DAIRY []

By: Quinton Mills

Its: owner

EXHIBIT "A"

Payment Obligations

The total consideration due to AgriClean under the Equipment Agreement shall equal in the aggregate \$282,750.00, payable as follows:

\$35,000 upon execution of the Equipment Agreement,
\$237,750 in progress payments based on invoices to Agriclean for suppliers and subcontractors,
\$10,000 upon issuance of the Acceptance Certificate by MILLS.

7 4,000

JACKSON 738767v1

December 3, 2003

Rebecca T. Wilson
Special Assistant Attorney General
Land, Water, & Timber Resources Board
P.O. Box 1609
Jackson, MS 39215-1609

Dear Ms Wilson:

I am writing to amend the previous application of the Mississippi Alternative Energy Enterprise for **Alternative Energy Device Development**. Consistent with the feedback of the Land, Water, & Timber Resources Board at the October 17th, 2002 meeting, we would like to amend our application to request the following amounts:

Farm Focused

Methane Gas Capture on Swine Farm -	\$ 114,200
Methane Gas Capture on Dairy Farm -	\$ 367,000
MSU / Alcorn System Optimization Project -	\$ 32,000

Device Development

Combined Technology Sites (3 sites) -	\$ 84,222 total
Hybrid Solar Lighting	\$ 100,000

Total Request	\$ 697,422
---------------	------------

I have enclosed more information about each of the projects as well as detailed budgets. Of course I will also be prepared to discuss each of them in more detail in the December 5th meeting. Please contact me if you have any questions or concerns.

Sincerely,

J.A. (Tony) Jeff, Jr.

Enclosure

REVISION

Summary of Projects

Methane Gas Capture on Swine Farm -	\$ 114,200
Methane Gas Capture on Dairy Farm -	\$ 367,000
MSU / Alcorn System Optimization Project -	\$ 32,000
Combined Technology Sites (3 sites) -	\$ 84,222 total
Hybrid Solar Lighting	\$ 100,000
Total Funding Request	\$ 697,422

Methane Gas Capture Systems

Methane gas capture systems will be installed on both a swine nursery and a dairy. In conjunction with MAFES, MSU & Alcorn Extension, a chemical engineering student from MSU will lead a project to optimize these systems and develop improvements for future systems.

Methane gas capture system on Swine Farms

- M&N Nursery; Montpelier, MS
- 36 kW system plus heat capture
- Feasibility study & quotes completed
- Prestage Farms may contribute to the project (in exchange for reducing the current propane subsidy to M&N Nursery)
- USDA has been asked to contribute to the project
- Six Prestage Farms Nurseries in Mississippi are nearly identical to each other
- Internal Combustion Engine version will be used because of simplicity of maintenance
- Project costs include all equipment and installation
- Budget: \$114,200

Methane gas capture system on Dairy Farms

- Dairy in Forest, Mississippi
 - Currently 350 head of cattle
 - Now reconfiguring barns and lagoons
- 135 kW system will be modeled after an existing system at Haubenschild Farm near St. Cloud, MN
- There are approximately 15 dairy farms with confined quarter operation in Mississippi
- Many of these farms may be eligible candidates for methane gas capture systems if benefits are proven
- Project costs include all equipment and installation
- Budget: \$367,000

REVISION

MSU / Alcorn Methane Optimization Project

- Project will be headed by MSU Chemical Engineering in conjunction with MAFES, MSU Extension & Alcorn Extension
- Project goal will be to increase methane production without negatively affecting farm operations
- Output of project will be improvements to initial sites as well as improved designs for future sites
- Project will run from January, 2003 until October, 2003
- Design improvements can be incorporated in future projects
- Budget: \$32,000

Combined Technology - Development Sites

- Technologies
 - Photovoltaic cells (1 kW)
 - Wind turbine (1 kW)
 - Grid-connected inverter
 - Battery Pack
 - Solar Hot Water Heater
- Three initial sites
 - Booneville
 - Madison County (Ratliff Ferry Rd. near Natchez Trace)
 - Gulfport
- Budget: \$28,074 each

Hybrid Solar Lighting

- Technology:
 - Separates light spectrum into visible, ultraviolet, and infrared
 - Visible light is sent through fiber optic cables to light indoor area
 - Infrared is used to produce electricity
- Quote Received from Oak Ridge National Laboratory
- Units will take 6 months to construct and install
- Vendors for component parts and Licensee's for the technology have not yet been selected – this will provide a potential economic benefit to Mississippi
- Alpha model Cost is \$100,000 including monitoring (Expected to be \$4000-\$5000 in full production)
- A host site university will be used to monitor results & output

Capital Cost for Dairy Farm Methane-Gas Digester System
Plug Flow digester - Scrape system

Component	Projected Cost
<u>Mix Tank</u>	
Excavation/ Grading	\$ 2,000
Cement Work	\$ 18,800
Manure Pump	\$ 11,300
Other- (piping, installation)	\$ 2,300
<u>Subtotal</u>	\$ 34,400
<u>Digester</u>	
Excavation/ grading	\$ 8,500
Digester tank	\$ 88,700
Heating	\$ 19,800
Cover	\$ 8,100
<u>Start-up</u>	\$ -
<u>Subtotal</u>	\$ 125,100
<u>Energy Conservation</u>	
Building	\$ 16,400
Gas Pipes	\$ 2,100
Gas Pumps/ Meter	\$ 2,000
Engine- generator- heat exchanger	\$ 106,000
Chiller	\$ 10,000
<u>Components and installation</u>	\$ 31,000
<u>subtotal</u>	\$ 167,500
<u>Services and Miscellaneous</u>	
<u>Engineering & Contingency</u>	\$ 40,000
<u>Subtotal</u>	\$ 40,000
<u>Total Capital Cost</u>	\$ 367,000

Capital Cost for M&N Swine Farm
Covered lagoon- Flush system

Component	Projected Cost
<u>Digester</u>	
Excavation/ grading	\$ 10,000
Heating exchange	\$ 3,000
Cover	\$ 13,200
Subtotal	\$ 26,200
<u>Energy Conservation</u>	
Gas Handling- (pump, meter)	\$ 10,000
Gas Pipes- (trenching, 1000 ft piping)	\$ 5,000
Engine- generator	\$ 60,000
Components and installation	\$ 3,000
Subtotal	\$ 78,000
<u>Services and Miscellaneous</u>	
Engineering & Contingency	\$ 10,000
Subtotal	\$ 10,000
<u>Total Capital Cost</u>	\$ 114,200

Combined Solar, Wind, and Hot Water Budget Summary

Solar System Budget

	Total
Unit Installed Price	\$ 16,839
Total Device Price	\$ 16,839 per system

Quote from Energy Outfitters

1 KW	Qty	Price	Net Price	
Item	6	\$749.00	\$4,494.00	
165 watt Sharp	6	\$17.05	\$102.30	
MC connectors for panels to combiner	1	\$680.00	\$680.00	
PV panel rack (top of pole)	1	\$139.00	\$139.00	
PV combiner/disconnect	6	\$12.00	\$72.00	
PV disconnect breakers (10A)	1	\$4,900.00	\$4,900.00	
Power Panel with:				
inverter (OutBack FX200)				
inverter disconnect				
charge controller (MX60)				
DC disconnects for MX60				
AC Inverter bypass assembly				
Outback Mate (display)				
Outback Hub	8	\$175.00	\$1,400.00	
Batteries (L16s)	1	\$569.00	\$569.00	Optional
Battery Box (OutBack PSR)	6	\$10.00	\$60.00	
Battery Cables (series connection)	2	\$15.00	\$30.00	
Battery Cables (parallel connection)	1	\$182.00	\$182.00	
Battery to Inverter cables (10', 4/0)				
			\$12,628.30	
Component total				
	1	\$300.00	\$300.00	Estimates
Hardware and wiring	1	\$3,157.08	\$3,157.08	
Installation Cost				
Maintenance Cost	1	\$750.00	\$750.00	
Shipping Cost				
				w/o battery
			\$16,839.38	\$14,598.38
Total Estimated Cost			\$16.84	
Total Cost / Watt				

Wind Budget

	Total
Total Unit Installed cost	\$ 3,735
Monitoring equipment	\$ 4,000
Total Device Price	\$ 7,735

Labor	1500
Tower	540
Wind Turbine	1695
Total	3735

Solar Hot Water Heater Budget

	Total
Installed Unit Price	\$ 3,500
Total Device Cost	\$ 3,500

Quote from MC Burkes of Midtown Solar

Solar and Wind Combined System

	Total
Total Installed Wind	\$ 7,735
Total Installed Solar	\$ 16,839
(1 wind Inverter)	\$ 3,500
Total Device Cost	\$ 28,074 per system

Capital Cost for Hybrid Solar Lighting System
Quotation from Oak Ridge National Lab

<u>Component</u>	<u>Projected Cost</u>
<u>Equipment & Installation</u>	
Complete Equipment Package	\$ 29,000
Labor	\$ 43,000
Subtotal	\$ 72,000
<u>Subcontracts</u>	
Subcontracts	\$ 13,000
<u>Services and Miscellaneous</u>	
Monitoring & Contingency	\$ 15,000
Subtotal	\$ 15,000
<u>Total Capital Cost</u>	\$ 100,000

LAND, WATER AND TIMBER RESOURCES PROGRAM APPLICATION FORM

The following questions have been broadly designed in order to provide the Mississippi Development Authority ("MDA") with a complete background of your project. The information required on this form is necessary to determine the eligibility of your project (the "Project"). Please answer all questions. Insert "NONE" or "NOT APPLICABLE" where necessary. If an estimate is given, put "EST." after the figure. Attach additional sheets if more space is needed. Return the original and two (2) copies of this application to MDA.

APPLICANT INFORMATION

LOCAL GOVERNMENT UNIT

1. Name: Not Applicable

Address:

Contact Person:

Name: _____

Title: _____

Address: _____

Telephone number: _____

E-mail: _____

COMPANY INFORMATION (IF APPLICABLE)

1. Name: Mississippi Technology Alliance – Alternative Energy Enterprise

Address:

700 N. State Street, Suite 300A

Jackson, MS 39202

Contact Person:

Name: Tony Jeff

Title: Project Manager – Mississippi Alternative Energy Enterprise

Address: 700 N. State Street; Suite 300A

Jackson, MS 39202

Telephone number: (601) 960-3636

E-mail: tjeff@technologyalliance.ms

2. **Taxpayer / Employment Organization:**

- ☐ Corporation ☐ Subchapter S ☐ Subchapter C
☐ Proprietorship ☐ Limited Liability Partnership
☐ Limited Liability Company ☒ Non-Profit Corporation ☐ Partnership

☐ Other Explain: _____

Date Business Established: Nov. 10, 1998 Company's Fiscal Year: July 1 – June 30

State of Corporation: MS Date Incorporated: Nov. 10, 1998

Registered Agent Name/Address:

Don Clark, Butler Snow, Omara, Stevens & Cannada, PLLC

3. **List all other economic development incentive programs, including financing programs, which have been applied for or awarded relative to the Project.**

These funds do not have other matching capital fund sources; however, all avenues for capital matching funds will continue to be explored. The project host will provide all operational cost of the implemented systems.

4. Company Ownership: *Please identify the major owners of the company. Include all owners with 20% or more interest in the company. For subsidiaries, identify owners of the parent company; for a public company, indicate publicly traded.*

Name	Address	Social Security Number	Percent (%)
------	---------	------------------------	-------------

The Mississippi Technology Alliance is a non-profit 501 (c) (3)) and therefore has no
owners. The MTA is governed by a Board of Directors comprised of private,
governmental and university leaders. Please see the attached complete list of the Board
of Directors in Appendix C

5. If any of the parties listed in #4 has ever been convicted of any criminal offenses, been in receivership or adjudicated a bankruptcy; been denied a business related license or had it suspended or revoked by any administrative, governmental or regulatory agency, please list violation and explain:

Not Applicable

6. Person to Review Legal Documents:
(No legal documents have been reviewed regarding this application.)

Name: Don Clark

Title: Attorney, Butler Snow, O'Mara, Stevens & Cannada, PLLC

Address: Post Office Box 22527

Jackson, MS 39225

Telephone number: (601) 948-5711

E-mail Address: don.clark@butlersnow.com

PROJECT INFORMATION

PROJECT LOCATION

1. Address:

Host sites are being identified through an on-going Request for Interest process. Host site locations are expected to have a negligible affect on the cost of device development.

2. Name of municipality where the project will be located:

Statewide

3. Name of the county where the project will be located:

Statewide

4. Will the Project have a significant effect on the environment?

☒ Yes ☐ No

If so, please describe the effect:

The systems implemented will lower the electricity cost of the residential, farm and business owners where they are installed. All technologies under consideration will reduce the use of fossil fuels and therefore improve the environment through their use.

5. Company EPA number: Not Applicable

6. Has the Company complied with all EPA regulations?

☐ Yes ☐ No ☒ Not Applicable

If the answer to this question is "NO," explain what steps are being taken to come into compliance.

NATURE AND COST OF PROJECT

1. Describe nature and benefit of the project for which assistant is being requested:
(This discuss should specifically address how the project will benefit Mississippi's Agricultural industry.)

These devices will be placed in rural and farming communities as well as urban areas. By learning the financial and environmental impact of these technologies in real-world Mississippi applications, the Alternative Energy Enterprise will be able to proliferate technologies that can save money and reduce dependence on traditional energy sources. Data gathered from these device development sites will provide first-of-its-kind insight into how the latest technologies can benefit Mississippians. Technologies that prove to be beneficial will then benefit from the creation of a proliferation plan to bring these technologies into much wider use in Mississippi.

2. Project Financial Information:

Estimated Project Costs

Category:	Cost:
<u>Purchase & Installation of Microturbine System on a Swine Farm</u>	<u>\$ 172,559</u>
<u>Purchase & Installation of Internal Combustion Engine System on Swine Farm</u>	<u>\$ 152,559</u>
<u>Purchase & Instillation of Internal Combustion Engine on two Dairy Farms</u>	<u>\$ 668,000</u>
<u>Purchase & Installation of Hybrid Solar Lighting</u>	<u>\$ 100,000</u>
<u>Purchase & Installation -2 Solar Hot Water Heaters</u>	<u>\$ 7,000</u>
<u>Purchase (3) combined solar, wind, battery devices</u>	<u>\$ 73,723</u>
<u>Cost for monitoring (20) geothermal heat systems</u>	<u>\$ 4,000</u>
Total Project Costs	<u>\$ 1,177,841</u>

Proposed Project Financing

Source:	Amount:
Bank Loan	\$ _____
Bond Issue	\$ _____
Other:	\$ _____
<u>Alternative Energy Fund (LWTRB)</u>	<u>\$1,177,841</u>
Equity: _____	\$ _____
Total Sources of Funds	<u>\$ 1,177,841</u>

Project Start Date: Upon Award date

Anticipated Project Completion Date: Acquisition and installation of materials for each site will begin as soon as funds are made available and will continue until the Spring of 2003. Performance monitoring will continue until data of a statistically valid sample size is gathered and analyzed.

Project Employment Information

1. Provide the total existing employment (include parent, subsidiaries and affiliates):
In Mississippi Not Applicable
Worldwide Not Applicable (include Mississippi)
2. Average annual wage for the sector of the State where the Project site is located:
Varies widely (Est: \$8 for laborers to \$50 for OakRidge National Laboratory Scientists)
3. Estimated number of persons to be employed* in the construction process of the Project and the estimated length of construction:

Number employed: <3 (Although various contractors, scientists and other professionals will be used in the construction of these devices, fewer than 2080 operational hours of work are expected.)
Length of construction: 2 weeks to 6 months

(*Based on one year of full time employment – approximately 2,080 hours of work)

4. Employment Projections

	FULL TIME*	PART TIME
Current Number of Jobs at Project Location	Not Applicable	Not Applicable
New Jobs Created 2 Years After Project Completion	To Be Determined	Est: 1-3
TOTALS		

*Full Time Equivalents = 1750 hours worked per annum

PROJECT REVENUE INFORMATION

- Provide the following information regarding the total tax impact expected to result from the Project for each of the five years following Project completion (direct and indirect):

DOLLAR INCREASE IN	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	FIFTH YEAR
LOCAL REAL ESTATE TAX					
STATE CORPORATE TAX		N/A			
STATE INCOME TAX					
SALES TAX					

PROJECT SALES INFORMATION

1. Provide the sales volume increases as a result of the planned expansion or relocation (if applicable):

Ridership based on number of people using public transit in downtown Biloxi and Gulfport – Park & Ride.

THIS SITE ONLY	FIRST YEAR ONLY	SECOND YEAR ONLY	THIRD YEAR ONLY	TOTAL AT END OF THREE YEARS
TOTAL SALES				
% INCREASE IN SALES		N/A		
% INCREASE IN TOTAL OUT-OF-STATE-SALES				
TOTAL OUT-OF-STATE SALES				

* Projected increase in ridership due to expanding routes to downtown areas.

2. Provide the sales volume increases of the new business (if applicable):

	FIRST YEAR ONLY	SECOND YEAR ONLY	THIRD YEAR ONLY	TOTAL
TOTAL SALES				
% INCREASE IN SALES		N/A		
% OUT-OF-STATE AND/OR INTERNATIONAL				

* Additional ridership for park & ride in central business districts – Gulfport & Biloxi

TYPE OF ASSISTANCE REQUESTED

1. What is the proposed loan structure and repayment term? ||

Loan Amount \$ _____

Repayment Term \$ _____

Interest Rate \$ _____

2. What is the proposed grant structure and basis of such request?
i.e., amount of community participation, federal match, corporate participation

Grant Amount \$ 1,177,841

Basis of Request:

The funds requested are part of the bond funds set aside specifically for alternative energy. The design, installation, and testing of device development sites is a fundamental assignment of the Alternative Energy Enterprise. Although our evaluation of various technologies, especially farm and agriculture uses of alternative energy technologies, continues, the technologies chosen here represent technologies that are likely to prove valuable for Mississippi homeowners, farmers, and businesses. These funds are required to install these alternative energy systems and monitor their ability to reduce the energy costs of the user and provide an acceptable payback.

Please note the individual project budgets in Appendix B. While these budgets have been estimated in consultation with a variety of experts, they are generally thought to be high. Of course any funds not required to complete these projects will be returned to the Land, Water, and Timber Alternative Energy Fund. The Mississippi Technology Alliance is only the administrator of the requested funds and none of these funds will be used for Mississippi Technology Alliance costs or administration.

REQUIRED ATTACHMENTS TO THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES PROGRAM APPLICATION

1. Copies of a Resolution of Intent to apply for assistance from the local government unit.
(Not Applicable)
2. Certified Proof of Publication of the Resolution of Intent.
(Not Applicable)
3. Local government units Application Certification (Exhibit A).
(Not Applicable)
4. Company Application Certification (Exhibit B).
5. A detailed map prepared by the engineer, using color-coding to define:
(Not Applicable)
 - Location of the proposed facilities;
 - The length and diameter of water and/or sewer lines;
 - The length of access roads; and
 - The width of any roadbed, width of the right-of-way and any intersecting route numbers.
6. Provide a copy of any letter of intent, commitment agreement or written assurance from a company that will receive assistance from the Mississippi Land, Water and Timber Resources Program **(See Exhibit B)**
7. Provided a detail list of any equipment to be acquired. **(See Appendix B: Budget Breakdowns)**
8. Provided documentation supporting the basis for any grant assistance requested, i.e., any grant application made or received from the federal government, any bond issue information from a local government, etc. **(Not Applicable)**

EXHIBIT A

LOCAL GOVERNMENT UNIT
APPLICATION CERTIFICATION

FOR APPROVAL UNDER THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES
PROGRAM

I _____, hereby certify that I am the Responsible Local Officer designated by _____ (Local Government Unit) to request assistance under the Mississippi Land, Water and Timber Resources Program presented in this Application. Further, as the Responsible Local Officer, I certify that the Application and attached documentation are true and accurate, and contain no misrepresentations, falsifications, omissions or concealment of material facts. I further agree to timely advise MDA of any changes in such information and documentation and will answer any such further questions regarding same.

Name of Local Government Unit

Name of Responsible Local Officer:

Signature of Responsible Local Officer:

ACKNOWLEDGEMENT OF LOCAL GOVERNMENT UNIT

STATE OF MISSISSIPPI)
) SS:
COUNTY OF _____)

Personally appeared before me, the undersigned notary public in and for the jurisdiction aforesaid, the within named _____, to me known, who acknowledged that he/she signed and delivered the foregoing Certification as of the date therein mentioned with actual execution on the date of this acknowledgment.

IN WITNESS WHEREOF, I hereto set my hand and official seal, this the ____ day of _____, 20____.

Notary Public

My Commission Expires:

ACKNOWLEDGMENT OF THE COMPANY

STATE OF MISSISSIPPI)
) SS:
COUNTY OF Hinds)

Personally appeared before me, the undersigned notary public in and for the jurisdiction aforesaid, the within named R. Andrew Taggart, Jr., to me known, who acknowledged that he/she signed and delivered the foregoing Certification as of the date therein mentioned with actual execution on the date of this acknowledgment.

IN WITNESS WHEREOF, I hereto set my hand and official seal, this the 16 day of October, 2002.

Lucia Gagini
Notary Public

My Commission Expires:
MY COMMISSION EXPIRES AUG. 19, 2005

EXHIBIT B

COMPANY

APPLICATION CERTIFICATION

FOR APPROVAL UNDER THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES
PROGRAM

I R. Andrew Toggart Jr hereby certify that I am the Responsible ~~Local~~ Officer designated by MS Technology Alliance (Company) to request assistance under the Mississippi Land, Water and Timber Resources Program presented in this Application. Further, as the Responsible Company Officer, I certify that the Application and attached documentation are true and accurate, and contain no misrepresentations, falsifications, omissions or concealment of material facts. I further agree to timely advise MDA of any changes in such information and documentation and will answer any such further questions regarding same.

Name of ~~Local~~ Government Unit

Mississippi Technology Alliance

Name of Responsible Local Officer:

R. Andrew Toggart Jr

Signature of Responsible Local Officer:

December 5, 2002

Mississippi Land, Water and Timber Resources Board
Post Office Box 1609
Jackson, Mississippi 39215-1609

ATTENTION: Rebecca T. Wilson, Board Attorney
Grant to Mississippi Technology Alliance
Not to exceed \$697,422
Mississippi Land, Water and Timber Resources Act


In order to induce the Mississippi Land, Water and Timber Resources Board (the "Board") to take official action to authorize the above captioned grant (the "Grant") to Mississippi Technology Alliance (the "Grantee"), Grantee hereby agrees as follows:

In the event the Grant is not made or the General Obligation Bonds (the "Bonds") of the State of Mississippi (the "State") needed to fund the Grant dare not be issued and sold on or before July 1, 2003 (or such subsequent date as is mutually agreed to in writing by the Board and Grantee), for any reason whatsoever and whether or not as a result of any failure to find one or more purchasers for the Bonds, any default or failure of performance by the Board, the inability to issue and sell the Bonds or the failure or inability of the Board, the purchaser(s) of the Bonds, the State, and/or Grantee to agree upon the terms and conditions of the agreements, instruments and other documents relating to the Grant and the proposed issuance and sale of the Bonds, Grantee will indemnify and hold harmless the Board and the State, and their respective members, officers, employees and agents, against any liabilities, allegations or claims of loss or damage (including attorney's fees and expenses) arising out of or relating to the Grant, the proposed project to be financed with the Grant, the proposed issuance and sale of the Bonds, or any transaction relating thereto.

To indicate that this letter correctly sets forth our agreement, please sign this letter in the space provided below.

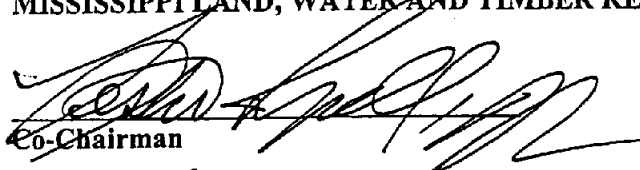
1/23/03
Date

Sincerely,


Mississippi Technology Alliance, Grantee

Interim Pres/CEO
Title

Accepted and Approved By:
MISSISSIPPI LAND, WATER AND TIMBER RESOURCES BOARD

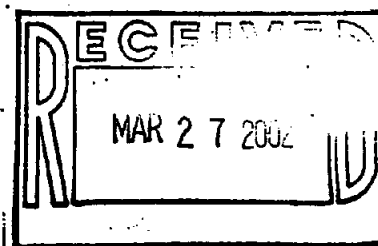

Co-Chairman

January 23, 2003
Date


Co-Chairman

2/4/03
Date

MISSISSIPPI LAND, WATER AND TIMBER
RESOURCES PROGRAM



by Makley

PROGRAM APPLICATION

LAND, WATER AND TIMBER RESOURCES PROGRAM APPLICATION FORM

The following questions have been broadly designed in order to provide the Mississippi Development Authority ("MDA") with a complete background of your project. The information provided on this form is necessary to determine the eligibility of your project (the "Project"). Please answer all questions. Insert "NONE" or "NOT APPLICABLE" where necessary. If an estimate is required, put "EST." after the figure. Attach additional sheets if more space is needed. Return the original and two (2) copies of this application to MDA.

APPLICANT INFORMATION

LOCAL GOVERNMENT UNIT

Name: Mississippi Department of Agriculture and Commerce (Sponsor)

Address:

121 North Jefferson Street

Jackson, MS 39215

Contact Person:

Name: Dr. Lester Spell, Jr.

Title: Commissioner

Address: 121 North Jefferson Street

Jackson, MS 39215

Telephone number: (601) 359-1100

E-mail: spell@mdac.state.ms.us

COMPANY INFORMATION (IF APPLICABLE)

Name: Mississippi Technology Alliance

Address:

700 North State Street, Suite 300-A

Jackson, MS 39202

LAND, WATER AND TIMBER RESOURCES PROGRAM APPLICATION FORM

The following questions have been broadly designed in order to provide the Mississippi Development Authority ("MDA") with a complete background of your project. The information required on this form is necessary to determine the eligibility of your project (the "Project"). Please answer all questions. Insert "NONE" or "NOT APPLICABLE" where necessary. If an estimate is needed, put "EST." after the figure. Attach additional sheets if more space is needed. Return the original and two (2) copies of this application to MDA.

APPLICANT INFORMATION

LOCAL GOVERNMENT UNIT

Name: _____

Address: _____

Contact Person:

Name: _____

Title: _____

Address: _____

Telephone number: _____

E-mail: _____

COMPANY INFORMATION (IF APPLICABLE)

Name: Mississippi Technology Alliance

Address: _____
700 North State Street, Suite 300-A

Jackson, MS 39202

Contact Person:

Name: Dr. Angie Dvorak

Title: President

Address: 700 North State Street, Suite 300-A

Jackson, MS 39202

Telephone number: (601) 960-3610

E-mail Address: dvorak@technologyalliance.ms

Taxpayer/Employer Organization:

- | | | |
|--|--|---------------------------------------|
| <input type="checkbox"/> Corporation | <input type="checkbox"/> Subchapter S | <input type="checkbox"/> Subchapter C |
| <input type="checkbox"/> Proprietorship | <input type="checkbox"/> Limited Liability Partnership | |
| <input type="checkbox"/> Limited Liability Company | <input checked="" type="checkbox"/> Non-Profit Corporation | <input type="checkbox"/> Partnership |

☐ Other Explain: _____

Date Business Established: 11/10/98

Company's Fiscal Year: 7/1 - 6/30

State of Corporation: Mississippi

Date Incorporated: 11/10/98

Registered Agent Name/Address:

List all other economic development incentive programs, including financing programs, which have been applied for or awarded relative to the Project.

Not applicable

Company Ownership: *Please identify the major owners of the company. Include all owners with 20% or more interest in the company. For subsidiaries, identify owners of the parent company; for a public company, indicate publicly traded.*

Name	Address	Social Security Number	Percent (%)
------	---------	------------------------	-------------

Mississippi Technology Alliance is a registered 501(c)(3) non-profit corporation
(Employer ID# 04-0901569), represented by a Board of Directors.

See Exhibit C "Board of Directors"

If any of the parties listed in #4 has ever been convicted of any criminal offenses, been in receivership or adjudicated a bankruptcy; been denied a business related license or had it suspended or revoked by any administrative, governmental or regulatory agency, please list violation and explain:

Person to Review Legal Documents:

Name: Don Clark (Butler Snow O'Mara Stevens & Cannada, PLLC)

Title: Partner

Address: 210 E. Capitol Street

Jackson, MS 39201

Telephone number: (601) 949-4586

E-mail Address: don.clark@butlersnow.com

PROJECT INFORMATION

PROJECT LOCATION

Address:

Statewide; headquartered at 700 N. State St. Suite 300-A

Jackson, MS 39202

Name of municipality where the project will be located:

Jackson

Name of the county where the project will be located:

Hinds County

Will the Project have a significant effect on the environment?

☒ Yes ☐ No

If so, please describe the effect:

The proposed alternative energy system will significantly reduce both
air pollution and water pollution. Additionally, biomass energy
generated from Mississippi's chicken processing plants will convert tons
of chicken waste into renewable energy, further lowering the amounts of
discarded waste and our dependence on out of state resources.

Company EPA number: _____

Has the Company complied with all EPA regulations?

☐ Yes ☐ No ☒ Not Applicable

If the answer to this question is "NO," explain what steps are being taken to come into compliance.

We plan on complying with all EPA regulations in our establishment of
the alternative energy system.

NATURE AND COST OF PROJECT

1. Describe nature and benefit of the project for which assistant is being requested:
(This discuss should specifically address how the project will benefit Mississippi's Agricultural industry.)

See Exhibit D "Nature of Project"

and Exhibit E "Proposed Deliverables"

Project Financial Information:

Estimated Project Costs

Category: See Exhibit F
"Project Administration Budget"

Cost:

\$ _____
\$ _____
\$ _____
\$ _____
\$ _____
\$ _____

Total Project Costs

Proposed Project Financing

Source:

Amount:

Bank Loan

\$ _____

Bond Issue

\$ _____

Other:

\$ _____

\$ _____

Equity

\$ _____

Total Sources of Funds

\$ _____

Project Start Date: 2/15/02

Anticipated Project Completion Date: 2/15/04

Project Employment Information (Not Applicable)

Provide the total existing employment (include parent, subsidiaries and affiliates):

In Mississippi _____

Worldwide _____ (include Mississippi)

Average annual wage for the sector of the State were the Project site is located:

Estimated number of person to be employed*in the construction process of the Project and the estimated length of construction:

Number employed _____ Length of construction _____

(*Based on one year of full time employment – approximately 2,080 hours of work)

Employment Projections:

	FULL-TIME	PART-TIME
Current Number of Jobs at Project Location		
New Jobs Created 2 Years After Project Completion		
TOTALS		

Full Time Equivalents = 1750 hours worked per annum

PROJECT REVENUE INFORMATION

Provide the following information regarding the total tax impact expected to result from the Project for each of the five years following Project completion (direct and indirect):

LEASE IN	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	FIFTH YEAR
AL REAL ATE TAX					
IATE PORATE TAX					
IATE COME TAX					
ES TAX					

PROJECT SALES INFORMATION Not Applicable

Provide the sales volume increases as a result of the planned expansion or relocation (if applicable):

IS SITE ONLY	FIRST YEAR ONLY	SECOND YEAR ONLY	THIRD YEAR ONLY	TOTAL AT END OF THREE YEARS
TOTAL SALES				
LEASE IN SALES				
LEASE IN TOTAL OF-STATE SALES				
OUT-OF-STATE SALES				

Provide the sales volume increases of the new business (if applicable):

	FIRST YEAR ONLY	SECOND YEAR ONLY	THIRD YEAR ONLY	TOTAL
TOTAL SALES				
% INCREASE IN SALES				
OUT-OF-STATE AND/OR INTERNATIONAL				

TYPE OF ASSISTANCE REQUESTED

What is the proposed loan structure and repayment term?

Loan Amount \$0

Repayment term yrs

Interest Rate %

What is the proposed grant structure and basis of such request?

i.e., amount of community participation, federal match, corporate participation

Grant Amount \$ 800,000

Basis of Request:

The requested grant amount will allow the Mississippi Technology Alliance to reach the goal of providing an affordable, efficient, and effective prototype alternative energy system to the state of Mississippi. We are striving to implement this new system within 24 months of the start date; the Mississippi Land, Water, and Timber Resources grant will help us meet our deadline.

REQUIRED ATTACHMENTS TO THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES PROGRAM APPLICATION

Copies of a Resolution of Intent to apply for assistance from the local government unit.

Certified Proof of Publication of the Resolution of Intent.

Local government units Application Certification (Exhibit A)

Company Application Certification (Exhibit B)

A detailed map prepared by the engineer, using color-coding to define:

- Location of the proposed facilities;
- The length and diameter of water and/or sewer lines;
- The length of access roads; and
- The width of any roadbed, width of the right-of-way and any intersecting route numbers.

Provide a copy of any letter of intent, commitment agreement or written assurance from a company that will receive assistance from the Mississippi Land, Water and Timber Resources Program.

Provided a detail list of any equipment to be acquired.

Provided documentation supporting the basis for any grant assistance requested. i.e., any grant application made or received from the federal government, any bond issue information from a local government, etc.

EXHIBIT A

LOCAL GOVERNMENT UNIT
APPLICATION CERTIFICATION

FOR APPROVAL UNDER THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES
PROGRAM

Lester Spell, Jr., hereby certify that I am the Responsible Local Officer
nated by Mississippi Department of Agriculture and Commerce (Local Government
to request assistance under the Mississippi Land, Water and Timber Resources Program presented
Application. Further, as the Responsible Local Officer, I certify that the Application and attached
documentation are true and accurate, and contain no misrepresentations, falsifications, omissions or
omission of material facts. I further agree to timely advise MDA of any changes in such information
documentation and will answer any such further questions regarding same.

of Local Government Unit

Mississippi Department of Agriculture and Commerce

of Responsible Local Officer:

Lester Spell, Jr.

Signature of Responsible Local Officer:

ACKNOWLEDGMENT OF LOCAL GOVERNMENT UNIT

STATE OF MISSISSIPPI)
) SS:
COUNTY OF _____)

Personally appeared before me, the undersigned notary public in and for the jurisdiction
aforesaid, the within named _____, to me
known, who acknowledged that he/she signed and delivered the foregoing Certification as of the date
aforesaid mentioned with actual execution on the date of this acknowledgment.

IN WITNESS WHEREOF, I hereto set my hand and official seal, this the _____ day of
_____, 20_____.

Notary Public

Commission Expires:

EXHIBIT A

LOCAL GOVERNMENT UNIT

APPLICATION CERTIFICATION

FOR APPROVAL UNDER THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES
PROGRAM

_____, hereby certify that I am the Responsible Local Officer
designated by _____ (Local Government
Unit) to request assistance under the Mississippi Land, Water and Timber Resources Program presented
in this Application. Further, as the Responsible Local Officer, I certify that the Application and attached
documentation are true and accurate, and contain no misrepresentations, falsifications, omissions or
concealment of material facts. I further agree to timely advise MDA of any changes in such information
documentation and will answer any such further questions regarding same.

Name of Local Government Unit

Name of Responsible Local Officer:

Signature of Responsible Local Officer:

ACKNOWLEDGMENT OF LOCAL GOVERNMENT UNIT

STATE OF MISSISSIPPI)
) SS:
COUNTY OF _____)

Personally appeared before me, the undersigned notary public in and for the jurisdiction
aforesaid, the within named _____, to me
known, who acknowledged that he/she signed and delivered the foregoing Certification as of the date
herein mentioned with actual execution on the date of this acknowledgment.

IN WITNESS WHEREOF, I hereto set my hand and official seal, this the _____ day of
_____, 20_____.

Notary Public

Commission Expires:

EXHIBIT B

COMPANY

APPLICATION CERTIFICATION

FOR APPROVAL UNDER THE MISSISSIPPI LAND, WATER AND TIMBER RESOURCES
PROGRAM

Angie Dvorak, hereby certify that I am the Responsible Local Officer
designated by Mississippi Technology Alliance (Company) to
request assistance under the Mississippi Land, Water and Timber Resources Program presented in this
application. Further, as the Responsible Company Officer, I certify that the Application and attached
documentation are true and accurate, and contain no misrepresentations, falsifications, omissions or
concealment of material facts. I further agree to timely advise MDA of any changes in such information
documentation and will answer any such further questions regarding same.

Name of Company

Mississippi Technology Alliance

Name of Responsible Company Officer:

Angie Dvorak

Signature of Responsible Company Officer:

ACKNOWLEDGMENT OF THE COMPANY

STATE OF MISSISSIPPI)

) SS:

COUNTY OF _____)

Personally appeared before me, the undersigned notary public in and for the jurisdiction
aforesaid, the within named _____, to me
known, who acknowledged that he/she signed and delivered the foregoing Certification as of the date
herein mentioned with actual execution on the date of this acknowledgment.

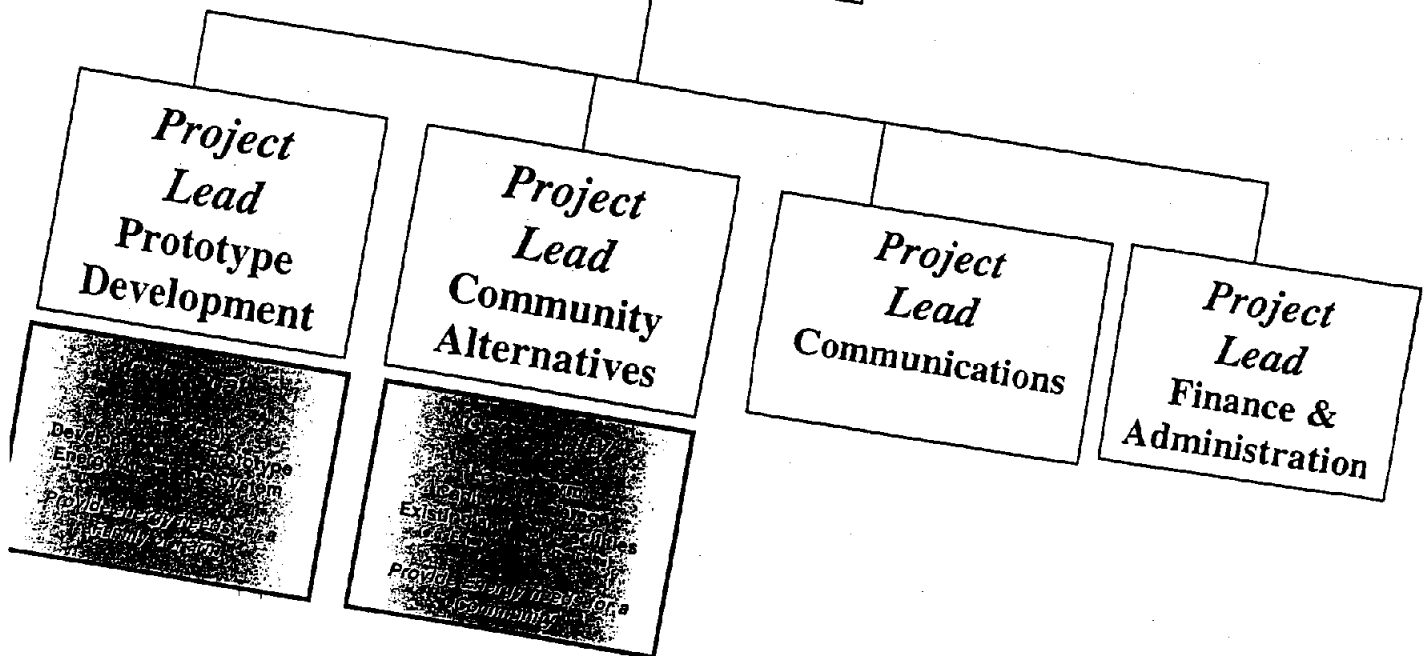
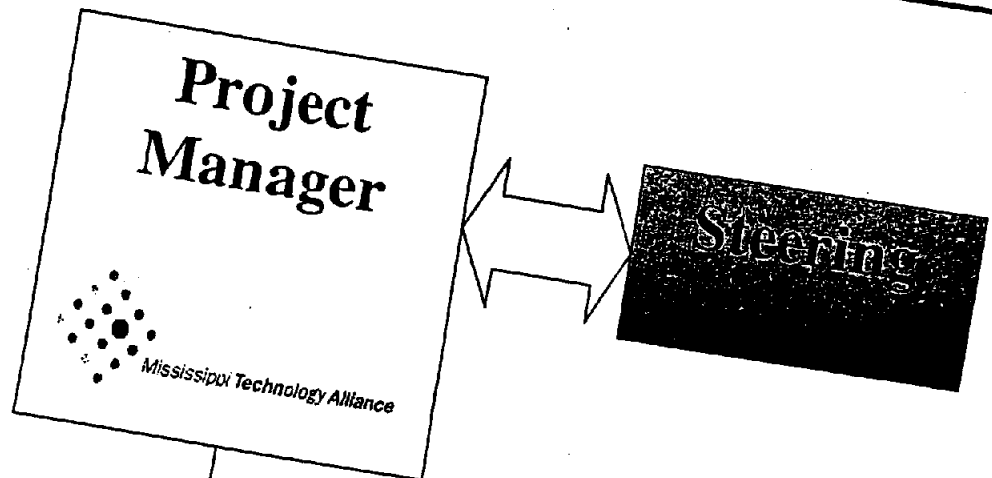
IN WITNESS WHEREOF, I hereto set my hand and official seal, this the _____ day of
_____, 20_____.

Notary Public

Commission Expires:

EWTO4

MS Alternative Energy Project Management Team



MS Alternative Energy Project Steering Committee



Dr. Angie Dvorak
(Co-Chairman)



Dr. Lester Spell
(Co-Chairman)

Glenn McCullough (TVA)
Duane Motsenbocker (MS Biomass Council)
Dick Molpus (The Woodlands Group)
Don Phillips (Potash)
Dr. Alice Clark (UM)
Dr. Wayne Bennett (MSU)
Dr. Shelby Thames (USM)
Dr. Sam White (JSU)
Bob Rohrlack (MDA)
Jay Brumfield (MS Chemical)
Matt Holleman (MS Valley Gas)
Mike Thomas (NASA – Stennis Space Center)
Chip Morgan (Delta Council)
Jeff Hoovler (Society of MS Inventors)

Mississippi Alternative Energy Project

Project Administration Budget

			Annual Expense
Salaries			
Project Manager	150 sq ft	\$	95,000
Communications	100 sq ft		50,000
Finance & Administration	100 sq ft		50,000
Administrative Support	100 sq ft		35,000
Prototype Team Lead	150 sq ft		50,000
Prototype Administrative Support	100 sq ft		20,000
Community Team Lead	150 sq ft		50,000
Community Administrative Support	100 sq ft		20,000



Mississippi Technology Alliance

	Project Staff	7		
Benefits			40%	148,000

Office Expenses

Rents	\$	18	per sq ft	15,300	includes 35% common
Telephone		150	5	9,000	
Internet		35	5	2,100	
Copy		600	1	7,200	
Computer		175	5	10,500	
Printing		600	1	7,200	

Communications

Website Development	15,000
Website Hosting	5,000
Newsletter	12,000
Collateral Materials	15,000
Steering Group Reporting	7,500

Accounting Support

20,000

Travel

	Qty	\$ per trip	
In-state	30	300	9,000
Regional	12	1000	12,000
National	10	1500	15,000

Overheads

25% 169,950

Year 1 Start-Up Administration Costs \$ 349,750



Mississippi Alternative Energy Project
Project Administrator: Mississippi Technology Alliance
Funding Source: Mississippi Land, Water & Timber Board
Proposed Deliverables (DRAFT)
January 22, 2002

- A. Assessment of existing alternative energy technologies and the availability of "working alternative energy systems" that would benefit Mississippi's residential, small business and agriculture / timber / poultry sectors ... key attributes would include the following:
- (1) Maximum Cost: \$25,000
 - (2) Minimum Capacity: 10.0 KW (combined)
 - (3) Maintenance Requirement: Low, routine service by homeowner / landowner / farmer
 - (4) Availability: Existing technologies ... "best of breed" approach ... 24-month development
 - (5) Hybrid System: Can include solar, wind, thermal, battery, fuel cell, bio-mass, micro-turbine
- B. Development of "Alternative Energy Strategy" for state of Mississippi that would focus on the "natural resources" across the state and capitalize on opportunities to create energy via these resources
- (1) Inventory those natural resources (row crops, timber, poultry waste, woodchips, etc.) and the likely areas in Mississippi effected
 - (2) Perform research to identify other states that have implemented similar strategies using natural resources
 - (3) Perform a "cost / benefit analysis" of opportunities for implementing "community-based" alternative energy
 - (4) Discuss with focus group of Mississippi farmers the potential "effects" of community-based alternative energy entities and the economic benefits associated
 - (5) Identify key areas in the state that could support "processing facilities" for alternative energy via natural resources of state
- C. Develop "Economic Impact Analysis" for each potential community-based alternative energy opportunity across Mississippi ... this would include the following:
- (1) General Economic Impact Statement (include overall economic impacts on economy, earnings and job creation) ... would need to segregate between "construction phase" vs. "operational phase" economic impacts ... also include the "value add" to row crops, annual property tax revenue and annual state personal income tax revenue opportunities
 - (2) Project Overview ... identify specific geographic locations, type of "alternative energy" entity (i.e., ethanol plant) and metrics associated (i.e., how many "bushels" that the plant will process and how many "gallons" of fuel ethanol per year)
 - (3) Regional Economic Impact ... would include the "value-add" to natural resources, investment in plant & equipment, economic activity / job creation / fiscal impact (both construction & operational phases)

- D. Provide a "vehicle" for the promotion of additional research & development around agricultural technologies associated with the production of alternative energy in the state of Mississippi
- E. Create a roadmap for alternative usages / distribution for Mississippi's agriculture, timber and poultry products ... solicit input from key constituencies across the state
- F. Create key working relationships with the Federal Sector with regards to the Mississippi Alternative Energy Project
- (1) United States Department of Agriculture (Undersecretary Bill Hawks, Delta Regional Authority Director Pete Johnson and other key members of the USDA Team)
 - (2) United States Department of Energy
 - (3) United States Department of Commerce
- G. Create key working relationships with the Mississippi Congressional Delegation in Washington concerning the opportunities inherent within the Mississippi Alternative Energy Project
- (1) Senator Thad Cochran & Staff
 - (2) Senator Trent Lott & Staff
 - (3) Representative Bennie Thompson & Staff
 - (4) Representative Roger Wicker & Staff
 - (5) Representative Chip Pickering & Staff
 - (6) Representative Ronnie Shows & Staff
 - (7) Representative Gene Taylor & Staff
- H. Create key working relationships with the Mississippi Legislature, its committees and key state agencies:
- (1) The Governor's Office
 - (2) The Lt. Governor's Office
 - (3) House of Representatives
 - a. Speaker of House
 - b. Ways & Means Committee
 - c. Appropriates Committee
 - d. Agriculture Committee
 - e. Public Health Committee
 - (4) Senate
 - a. Speaker Pro Tem
 - b. Ways & Means Committee
 - c. Appropriates Committee
 - d. Agriculture Committee
 - e. Public Health Committee
 - (5) Mississippi Development Authority
 - (6) Mississippi Environmental Quality Control
 - (7) Mississippi Department of Agriculture & Commerce

- I. Identify potential "legislation" needed to promote the development and utilization of alternative energy in Mississippi; the development of "alternative energy" entities across the state"; research & development efforts around alternative energy
- J. Create an "integrated effort" among Mississippi's Research Universities (JSU, MSU, UM and USM) to combine current & future research efforts around alternative energy (fuel cells, biomass, solar, thermal, hydro, wind, acoustic, etc.)
- K. Leverage the historical research and analysis from the Mississippi BioMass Council in creating trend reports for the potential of "alternative energy" development & utilization from organic resources (agriculture and crop wastes, animal wastes, wood wastes, municipal solid wastes, soy diesel) through technologies such as direct combustion, gasification & fermentation